DISSERTATION ON

"A STUDY TO ASSESS THE EFFECTIVENESS OF FRESH ALOE VERA GEL APPLICATION ON PAIN RELIEF AND HEALING OF EPISIOTOMY WOUND AMONG POSTNATAL MOTHERS ADMITTED AT INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, CHENNAI"

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MASTER OF SCIENCE IN NURSING

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CERTIFICATE

This is to certify that this dissertation titled **"a study to assess the effectiveness of fresh aloe vera gel application on pain relief and healing of episiotomy wound among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Chennai"** is a bonafide work done by **Mrs.S.Jayashree, II year M.sc Nursing Student,** College of Nursing, Madras Medical College, Chennai – 600003, submitted to the Tamil Nadu Dr.M.G.R. Medical University, Chennai in partial fulfillment of the requirements for the award of degree of Master of Science in Nursing, Branch III, Obstetrics and Gynaecological Nursing, under our guidance and supervision during the academic period from 2014 – 2016.

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Dissertation on

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ABSTRACT

TITLE: "A study to assess the effectiveness of fresh aloe vera gel application on pain relief and healing of episiotomy wound among postnatal mothers admitted at Institute Of Obstetrics and Gynaecology and Government Hospital for Women and Children, Chennai"

An episiotomy is an incision made to make the delivery of baby easier for mothers. Midwives have a very important role to play in the care of perineal wounds following childbirth.

Need for the study: Many women who have just given birth have a new baby and also have a new wound to care for. Mothers were in great need for relief from pain and discomfort for effective breast feeding and provide baby care. This is the exclusive cause for the investigator to use fresh aloe vera gel for promoting pain relief and healing of episiotomy.

Objectives of the study

- To assess the episiotomy wound and pain before and after aloe vera gel application among postnatal mothers in the experimental and control groups.
- To compare the effectiveness of aloe vera gel on episiotomy wound healing and pain among postnatal mothers in the experimental and control groups.
- To determine the effectiveness of aloe vera gel on episiotomy wound healing and pain among postnatal mothers in the experimental and control groups
- To find out the association between the level of episiotomy wound healing and pain in selected demographic and obstetrical variable of postnatal mothers in the experimental and control groups

Key words: Episiotomy, aloe vera gel, postnatal mothers, wound healing and pain relief

Methodology:

Research approach : Quantitative evaluative approach

Study design : True experimental study design was used

Sampling technique *:* Simple random sampling by lottery method
Tool *:* Structured questionnaire, REEDA scale and universal pain assessment scale was used.
Data collection procedure: After getting approval from ethical committee, madras medical college, Chennai, formal permission was obtained from Director and Head of department of IOG, the data collection was done for the period of four weeks. 60 postnatal mothers were selected by simple random sampling technique. Pre assessment was done in both experimental group and control group. Fresh aloe vera gel was applied for experimental group for half an hour twice daily for three days. For control group hospital routine care was given. Post assessment was done on the third day.

Data analysis: The data were analyzed using descriptive statistics such as mean, standard deviation, frequency and percentage, and inferential statistics such as paired‘t’ test, unpaired ‘t’ test and Chi square test.

Study findings: Paired‘t’ test was used to assess the effectiveness of fresh aloe vera gel. The computed‘t’ value of wound healing (20.888) and pain (27.109) was greater than table value 2.05 ($t_{29}=2.05$, $p<0.05$). Hence aloe vera gel was effective in episiotomy wound healing and pain relief than routine episiotomy care.

Discussion: Postnatal mothers in experimental group showed significant result than in control group. And hence the hypothesis was accepted. This showed the effectiveness of fresh aloe vera gel application in episiotomy wound healing and pain relief.

Summary: The results revealed that fresh aloe vera gel had a significant effect in improving the wound healing and reducing pain in episiotomy. As aloe vera gel is cost effective and easily available and it can be practiced in home settings also nurses can be empowered to use complementary therapies like aloe vera gel application on episiotomy wound.

Recommendations for further study: Studies can be conducted in multicenters to assess the effectiveness of fresh aloe vera gel for wound healing after caesarean section and other surgical wounds with large samples for generalization of study results.

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ABBREVATIONS

ABBREVATIONS	EXPANSION
CI	Confidence interval
F	Frequency
P	Probability level
H	Hypothesis
$\chi 2$	Chi square test
T	Assessment of significance
SD	Standard deviation

INTRODUCTION

CHAPTER-I

INTRODUCTION

"Childbirth is more admirable than conquest, more amazing than self defense and as courageous as either one" ***- Gloria Steinem***

Pregnancy and child birth are special events in a woman's lives. Mothers suffer much distress after child birth due to painful perineum. Perineal pain is associated with child birth by vaginal delivery with episiotomy. Pain following episiotomy appears to be universal. The mother undergoing episiotomy is characterized by greater blood loss in conjunction with delivery, and there is a risk of improper wound healing and increased pain during early puerperium[1].

Historical accounts claim **Sir Fielding Ould**, irish obstetrician first advocated the procedure in 1742, describing the head as thrusting against the perineum as **"if contained in a purse".** Episiotomies became much more popular in the early 20th century with the advocacy of **Joseph De Lee**, a prominent Chicago obstetrician who laid the ground work for modern obstetrics in the United States. De Lee proposed eliminating the second (pushing) stage of childbirth by routinely using episiotomies and forceps under general anaesthesia[2].

Wound healing is complex and requires safe and effective treatment modalities. Attention should be afforded to episiotomy wound care as it parallels any other wound. Wound healing involves a complex series of interactions between different cell types, cytokine mediators, and extracellular matrix. The phases of normal wound healing are homeostasis, inflammation, proliferation, and remodeling. Each phase of wound healing is distinct, although the wound healing process is continuous, with each phase overlapping the next. Most of the doctors prescribe pain relieving medications such as

paracetamol and antiseptic creams to avoid infections. Besides, one can follow certain small measures that may promote faster healing[3].

Today, the expense of medical treatment is rising high and the care of patient with episiotomy can be economically done if the nurse with their competencies and skills provide various remedial measures for wound healing. Self-perineal care is the most cost effective way for wound healing[5].

Aloe vera is a perennial succulent xerophyte, which develops water storage tissue in the leaves to survive in dry areas. Many of the medicinal effects of aloe leaf extracts have been attributed to the polysaccharides found in the inner leaf parenchymatous tissue. Various studies have demonstrated the power of Aloe vera on moisturizing; wound healing−fibroblast activity, collagen proliferation, angiogenesis; anti- inflammatory; antibacterial, antifungal, antiviral; antioxidant effects[6].

Aloe vera gel, a clear jelly like substance has 8 essential amino acids, enzymes, lignin, minerals, mono and polysaccharides, salicylic acid, saponins, sterols and vitamins[7].

Aloe vera, the plant can be snapped off and placed on cuts and burns and skin rashes for immediate relief. The gel is the part of the aloe plant. The slightly sticky gel inside each leaf soothes the skin and, according to the National Institutes of Health, studies have shown aloe vera can help promote healing of the skin[8].

In a study on the immunomodulatory properties of Aloe vera, it was shown that relatively high concentrations of acemannan are required to achieve modest activation of macrophages. It was shown that aloe gel could improve wound healing after topical and systemic administration in several studies. Several mechanisms have been proposed for the wound healing effects of aloe vera gel, which include keeping the wound moist, increase epithelial cell migration, more rapid maturation of collagen and reduction in inflammation[9].

1.1. Need for the study

Episiotomy, incision of the perineum at the time of vaginal childbirth, is a common surgical procedure experienced by women. Many women who have just given birth have a new baby and also have a new wound to care for[10].

The prevention of perineal trauma is very much at the forefront of midwifery care. It gives many midwives a sense of pride to complete a birth with no perineal trauma. Also today, the expense of medical treatment is rising high and the care of patient with episiotomy can be economically done if the nurse with their competencies and skills provide various remedial measures for wound healing[11].

Midwives have a very important role to play in the care of perineal wounds following childbirth. Various intervention are found to reduce episiotomy pain and enhance the healing process which include administration of analgesics, cleanliness, topical application by dry heat and moist heat, sitz bath, performance of Kegel's exercise, perineal care and complementary therapies[12].

The maintenance of effective pain relief must be balanced with the need to promote wound healing. It is important that midwives recognize the need for research-based practice in episiotomy care[12].

Investigator during her experience with postnatal mothers had found that most of the mothers who had undergone normal and instrumental delivery with episiotomy had complaints of pain, discomfort, infection of wound and suture site and delayed healing. Mothers were in great need for relief from pain and discomfort for effective breast feeding and provide baby care. This motivated the investigator to use fresh aloe vera gel for promoting pain relief and healing of episiotomy wound.

The aloe vera gel components have been proven in many studies to have wonderful benefits for wound healing and skin inflammation. To promote wound healing in the shortest time possible, with minimal pain, discomfort, and

scarring to the patient. Midwives must realize the relevance of their care and potential impact, both positive and negative, of advocated treatments in wound healing[13].

The application of aloe vera gel is best if extracted directly from the plant, as commercial types can contain irritating preservative. The fresh gel from the plant cools the torn perineum as one can break off a leaf and remove the green skin from the leaves, place a clear gel on the gauze pad and secure it in place for half an hour for two times a day, so the researcher felt it will be effective because of its easy availability and easy preparation in home thereby promoting perineal healing and providing comfort to the mothers. Aloe vera is largely available in most of the part in India. Because of its medicinal importance and easy availability it can be used for episiotomy wound healing and pain relief. It also increases collagen content and degree of collagen cross-linkage within the wound. Hence the researcher selected the present study to assess the effectiveness of fresh aloe vera on episiotomy for pain and wound healing[14].

1.2. Statement of the problem

"A study to assess the effectiveness of fresh aloe vera gel application on pain relief and healing of episiotomy wound among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Chennai"

1.3. Objectives of the study

- To assess the episiotomy wound and pain perception before and after aloe vera gel application among postnatal mothers in the experimental and control groups.
- To compare the effectiveness of aloe vera gel on episiotomy wound healing and pain perception among postnatal mothers in the experimental and control groups.

- To determine the effectiveness of aloe vera gel on episiotomy wound healing and pain perception among postnatal mothers in the experimental and control groups
- To find out the association between the level of episiotomy wound healing and pain perception in selected demographic and obstetrical variables of postnatal mothers in the experimental and control groups

1.4. Operational definitions

Effectiveness: Refers to the extent to which aloe vera gel has produced desirable effects on healing of episiotomy wound and pain as measured by REEDA scale and universal pain assessment tool.

Aloe vera gel: The fresh gel was prepared by the investigator by extracting it from the leaves of the aloe vera plant.

Episiotomy wound: Refers to planned surgical incision made on the perineum and posterior vaginal wall during vaginal delivery which has been sutured and manifested as loss of tissue and skin integrity.

Pain relief: Refers to pharmacological, non pharmacological and others approaches to prevent, reduce or stop pain sensation.

Postnatal mother: Refers to both primigravidae and multigravidae mother who have undergone spontaneous vaginal delivery, forceps delivery or vacuum extraction with episiotomy.

1.5. Assumptions

The study assumes that:

- Episiotomy wound produces pain and discomfort among postnatal mothers.
- Alternative and complementary therapies like fresh aloe vera gel application may aid in improving healing of episiotomy wound among postnatal mothers.
- Fresh aloe vera gel application may reduce pain perception among postnatal mothers.

1.6. Hypothesis

H_1: There may be significant difference in episiotomy wound healing among postnatal mothers in the experimental group than in the control group.

H_2: There may be significant difference in episiotomy pain perception among postnatal mothers in the experimental group than in the control group.

H_3: There may be significant association between the levels of episiotomy wound healing with the selected demographic variables and obstetrical variables among experimental group.

H_4: There may be significant association between the levels of episiotomy pain perception with the selected demographic variables and obstetrical variables among experimental group.

1.7. Delimitations

1. The study duration was only 4 weeks.
2. The study was conducted in postnatal ward in IOG Hospital.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

2.1 Literature review related to the study:

Review of literature refers to an extensive and systematic examination of publications relevant to the research project. Review of literature is a key step of a research process. Nursing research is considered as continuing process in which knowledge gained from earlier studies is an integral part of research.

The investigator carried out an extensive review of literature on the research topic in order to gain insight into the problem and to collect maximum relevant information for building up the study in a scientific manner so as to achieve the desired results.

The retrieved literature was done for the present study and presented in the following headings.

Section A: Literature review related to incidence of episiotomy.

Section B: Literature review related to episiotomy wound.

Section C: Literature review related to episiotomy pain.

Section D: Literature review related to effectiveness of aloe vera gel on episiotomy.

Section E: Literature review related to effectiveness of complementary therapies on episiotomy wound healing and pain perception.

Section F: Literature review related complications of episiotomy.

Section A: Literature review related to incidence of episiotomy.

Patient.co. in UK (2010), conducted a epidemiological studies of the National Childbirth Trust in 2001 produced figures for episiotomy. Between 1940 and 1980 episiotomies became routine in the US and, to a lesser extent, in the United Kingdom and Australia. By 1979, episiotomies were performed in 63% of vaginal births in the US. The percentage of episiotomy was found to be 15% in England, 13% in Scotland, 10% in Wales and 22% in Northern Ireland. There was however a considerable international variation in the rate of episiotomy. According to the Royal College of Obstetricians and Gynecologists (RCOG), it was 8% in Holland, 14% in England, 50% in the USA and 99% in Eastern Europe[15].

Bulletin of World Health Organization (2010), reported that the birth rate in India is 23.8 per thousand births in 2005. In India 23% of women report health problem in first month after delivery related to episiotomy as perineal tear, urinary incontinence, and uterine prolapse. In 2004, 29.1% of birth were delivered by ceasarean delivery and 60% delivered per vaginal. In India, in 2010 the overall rate of episiotomy was 40.6%[16].

Richard Hyer, et.al (2009), conducted a study on 10-year episiotomy trends among different practice groups at Brigham and Women's Hospital in Boston, Massachusetts, found a substantial reduction in episiotomy rates across patient and provider groups, owing to factors as varied as local peer pressure and response to significant research. Patient preference and other factors also contributed. The researcher concluded that local peer pressure and response to significant research, in particular the Hartmann study, contributed to the substantial reduction in rates of episiotomy across patient and provider groups over the 10-year period[17].

Julian N Robinson (2008), conducted a study on prevalence of episiotomy procedure around the world, according to report on 6, June 2008 the prevalence of episiotomy procedure was 1.6 million in 1992 versus 7, 16,000 in

2003. The prevalence of episiotomy is higher in Latin America and the United States, approximately 40 percent of vaginal deliveries and lower in Europe with reported rates varying widely from 1% in Swedan to 80 % in Argentina[18].

Viswanathan.M (2005), conducted a study on the Use of Episiotomy in Obstetrical Care, reported in the United States, based on national hospital discharge data for 1999, just over 35 percent of women who gave birth vaginally had an episiotomy performed; the figure was approximately 33 percent in 2000. Researchers used the Perspective database to identify women who underwent a vaginal delivery from 2006-2012 in the United States. There was a decline in the episiotomy rate between 2006 (17.3 percent) and 2012 (11.6 percent). A slightly different trend is shown in Australia with a decline in episiotomy rates during the 1990s but a steady rise from 12.8% in 2000 to 14.9% in 2006 and to 16.2% in 2012. Victoria has the highest rate at one in five deliveries[19].

Section B: Literature review related to episiotomy wound:

Miriam E. Tucker (2014), assessed mediolateral episiotomy during operative vaginal delivery significantly reduces the risk for obstetrical injury in South Carolina. Primiparous and multiparous women and forceps and vacuum deliveries were examined. In all cases, the risk for injury was significantly lower when mediolateral episiotomy was performed. The difference was particularly striking for primiparous women during forceps deliveries[20].

Islam.A, et.al (2013) conducted a prospective randomized control study at the Military Hospital Rawalpindi's Gynaecology & Obstetrics Department from January 2006 to April 2008. Postpartum morbidity was compared in the two groups. Morbidity included perineal damage by tears, subjective assessment of pain at perineum, dyspareunia after puerperium, feeling of pressure puerperium, incontinence and objective assessment of prolapse after puerperium. The results revealed that there is significant difference between two groups on pain, feeling of pressure in perineum[21].

British Journal of Obstetrics and Gynaecology (2007) published a series of articles with conflicting results in regard to the protective effect of mediolateral episiotomy performed during operative vaginal delivery. First, in 2007, de Leeuw *et al.* published a retrospective population-based study of over 28,000 operative vaginal deliveries from the Dutch National Obstetric Database. In this study, the overall rate of episiotomy was 79% in vacuum extractions and 89% in forceps deliveries. Mediolateral episiotomy was highly protective for severe perineal laceration with both vacuum and forceps deliveries with ORs of 0.11 and 0.08, respectively. The number of episiotomies needed to prevent one anal sphincter injury in vacuum extractions was 12 and in forceps deliveries was five. In their conclusion, the authors advocate for liberal use of mediolateral episiotomy with operative vaginal delivery[22].

The journal of health (2007), states that an episiotomy might be needed if one of the following circumstances applies. The baby is large the practitioner needs extra room when using forceps to deliver the baby. The vaginal tissue looks fragile as baby's head begins to crown[23].

Frauel fosse (2006) conducted a study on post delivery care after episiotomy. The objective was to define the most appropriate care after an episiotomy, the best suited treatment of the pain of episiotomy and to examine the course of repair stitches. The result was best possible personal hygiene which is a key to healing but no specific treatment has been accepted of teaching on episiotomy and perineal care[24].

Murphy, et.al (2006) published results of both a randomized control trial and a prospective cohort study of mediolateral episiotomy at the time of operative vaginal delivery. The authors concluded that episiotomy at the time of operative vaginal delivery may increase maternal risks without clear benefit. A subsequent clinical study examined actual measurements of episiotomies performed. A total of 258 women agreed to participate, of whom 98 (41%) had mediolateral episiotomies. Of these, 58 were delivered by physicians and 40 by midwives. The investigators found that episiotomies cut by doctors were longer

and deeper than those cut by midwives. Only 22% of episiotomies cut by doctors were truly mediolateral (between 40 and 60°), and none of the episiotomies cut by midwives met these criteria. The impact of operative technique may be substantial as an emerging body of literature provides evidence of a relationship between the angle of mediolateral episiotomy and the risk of anal sphincter damage[25].

Sathiyasekaran, et.al (2005) conducted a cross sectional population study among 442 mothers at Chennai to estimate episiotomy rate in a rural population and to find out if higher episiotomy rate is associated with place of delivery and category of health care provider. Data were obtained through personal interview and from available medical records. The study finding revealed that overall episiotomy rate was 67%. For women whose delivery was conducted by doctors the episiotomy rate was 77.4% and conducted by nurses it was 53.1%. Episiotomy rate was very high (91.8%) when delivery was conducted in private medical college hospitals and the rates were lower when conducted in secondary and primary level institutions. Researcher concluded that episiotomy rate in the study population is high. The probability of episiotomy is very high when doctors conducted the delivery and when place of delivery is private medical college hospital[26].

Lior lowenstenia (2004), conducted a survey on episiotomy its beliefs, practice and the impact of educational intervention of the attitude of obstetrical caregivers toward episiotomy was conducted among obstetricians and midwives in the three public hospitals in Haifa. The study findings reported that there was significant increase in episiotomy rates was observed two hospitals. The researcher concluded that education may play an important role in changing common medical practices, as in episiotomy[27].

P.Manjula (2012), conducted a descriptive study to examine factors influencing episiotomy wound healing in Government Taluk Hospital, Kundapura. The study reveals that episiotomy wound healing is influenced by

parity, frequency of self perineal care, length of episiotomy wound and no of episiotomy sutures present[28].

Calvert and Fleming (2001) indicated a tool that has been developed to assess the degree of perineal trauma is the REEDA tool. It has some merit as scoring relies on precise measurement of the degree of trauma and describes specifically the trauma associated with each individual woman. The difficulties in using REEDA tool included the placement of the tape to measure trauma and possible contamination of the tape[29].

Cunningham, et.al (2001), conducted a study on mediolateral episiotomy and its effects. The study results states that mediolateral episiotomy protects the perineum from severe lacerations but has been associated with more difficult surgical repairs, faulty healing, increased pain, negative cosmetic effects and dyspareunia[30].

Grant.A, et.al (2001), assessed the long term implications of four alternative approaches to postpartum perineal repair .793 women participated. Two stage repair leaving the skin unsutured with standard three stage repair and polyglactin 910 with chromic catgut as suture material for repair was compared. Two stage repair of perineal trauma leaving the skin appears to reduce the likelihood of the perineum feeling different from before delivery, in addition to less pain and dyspareunia long term indicating that the short term benefits of this material over chromic catgut persists[31].

Nawafleh.AN, **et.al (2001),** investigated the relation of episiotomy to third degree perineal tears, and to detect the rate, indications and risk factors of both episiotomy and third degree perineal tears. In 17,559 singleton vaginal deliveries, the incidence of episiotomy was 39%. Third degree tears occurred in 1% of the deliveries with episiotomy in 0.2% of the deliveries without episiotomy. Hence the researcher concluded that in uncomplicated deliveries, no significant relation between third degree perineal tear and episiotomy was found[32].

Shah, et.al (2001),conducted a randomized comparative study of polyglactin 910 versus chromic catgut for postpartum episiotomy repair in 226 women and reported that suturing with polyglactin 910,was less likely to result in short term pain and uncomfortable stitches and healing proceeded more rapidly. After 3 months, there was no difference in pain, resumption of intercourse or need for resuturing. Removal of suture material was required more often with polyglactin 910[33].

Carroli, et.al (2000), assessed the effects of restrictive use of episiotomy compared with routine episiotomy during vaginal birth and identified that restrictive episiotomy policies appear to have a number of benefits compared to routine episiotomy policies. There was less posterior perineal trauma, less suturing and fewer complications, no difference for most pain measures, but there was an increased risk of anterior perineal trauma with restrictive episiotomy[34].

Eason et al (2000), performed a meta analysis to prevent perineal trauma during child birth. The analysis suggested the factors that would increase perineal integrity include avoiding episiotomy, spontaneous or vacuum assisted rather than forceps birth, and in nulli paras, perineal massage during the weeks before childbirth[35].

Chiarelli and Cockburn (1999), reviewed the available literature regarding the best practice for the sutured damage to the perineum , associated perineal wound breakdown and perineal oedema. Little evidence that might be considered scientifically robust was found. Recommendations based on the available evidence include a careful emphasis on perineal hygiene, cryotheraphy and elevation of the foot in the bed in the presence of odema and regularly performed pelvic floor exercises[36.]

Robinson, et.al (1999), conducted a retrospective study of 323 operative vaginal deliveries reported an increased risk of severe perineal laceration in vacuum deliveries with episiotomy compared with those without

episiotomy with a relative risk of 3.7; however, there was no effect of episiotomy on perineal laceration in forceps deliveries[37].

Section C: Literature review related to episiotomy pain perception.

Ana Carolina, et.al (2015) conducted a study to characterize and measure perineal pain in puerperal primiparous undergoing episiotomy, 40 puerperal primiparous who underwent normal childbirth with episiotomy was selected. Pain was measured with the Brazilian version of the McGill questionnaire. The researcher found that Participants had a mean pain level of 4.2; the intensity of perineal pain was noted to be moderate[38].

Hay smith (2000), conducted a study on four trails involving 659 women for assessing therapeutic ultrasound for postpartum episiotomy pain and dyspareunia. Women treated with active ultra sound for postpartum episiotomy pain and dyspareunia were more likely to report improvement in pain with treatment. Those treated with ultrasound were less likely to have bruising at 10 days than women treated with electromagnetic energy with ultrasound[39].

Section D: Literature review related to effectiveness of aloe vera gel

Seyyed abbas hashemi (2015), conducted an experimental study in Iran, on use of topical application of aloe vera gel on wounds. Patients in the topical group had significantly less post operative pain at hours 12, 24, 48 hrs post surgery ($p<0.001$).Wound healing at the end of second post operative week was significantly greater in aloe vera group compared with placebo group ($p<0.001$).Patients needed fewer analgesics post operatively ($p<0.001$).The study concluded that application of aloe vera cream on the surgical site was effective in reducing postoperative pain[40].

SP Mangaiyarkarasi (2015), conducted a preliminary study to compare the efficacy of aloevera with antioxidants in treatment of oral submucous fibrosis in Chennai. Aloevera showed a significant reduction in burning

sensation (P=0.008), improvement in mouth opening (P=0.02) and cheek flexibility (P=0.01) on comparing with antioxidant group. Overall assessment of parameters depicted that Aloe Vera group showed a better treatment response compared to antioxidant group. Proves to be a relatively safe, can be applied topically, easily available, economical, non-invasive efficious treatment in for oral submucous fibrosis[41].

J clin den res (2014), conducted an experimental study on effect of aloe cream and gel on genital herpes lesions among 120 patients in Britain found that, both aloe cream and gel were effective in reducing healing time compared to placebo (4.8 vs. 7.0 vs. 14.0 days, respectively), aloe cream was more efficacious in number of cured patients compared to gel (70% vs. 45% vs. 7%) respectively, no side effects observed[42].

Fereshteh Jahdie et all (2013), conducted a study on determining the impact of Aloe vera and Calendula on episiotomy healing in primiparous women. This clinical trial involves 111 qualified primiparous women admitted in Lolagar hospital. The women in experimental group used Aloe vera and Calendula Ointment every 8 hours and the control group used hospital routine on episiotomy for 5 days. According to the results, using Aloe vera and Calendula ointment considerably increased the speed of episiotomy wound healing so it can be used for quickening the episiotomy healing[43].

N Babaee (2012), conducted a double blind clinical trial to evaluate topically administered aloe vera gel on oral minor apthous ulcer. Healing time, patient's pain score, the lesion and its surrounding inflammation diameters were recorded for 2 weeks. Duration of complete wound healing, pain score, wound size and inflammation zone diameter in aloe vera treated group were significantly lower than the control group ($P<0.05$) in specific time points after treatment. It seems likely that aloe vera 2% oral gel not only effective in decreasing the recurrent apthous stomatitis patient's pain score and wound size but also decreases the apthous wound healing period[44.]

Ghasemali Khorasani (2011), conducted a randomized placebo controlled blinded clinical trial in Iran, on effects of aloe vera cream on split thickness skin graft donor site management. The donor sites were assessed daily post operatively until complete healing was achieved. Mean wound healing time in the control group was significantly different from the aloe vera and placebo groups ($P < 0.005$). This study showed a significantly shorter wound care time for skin graft donor sites in patients who were treated with aloe vera and placebo cream[45.]

Demetria Clark (2005), conducted a study regarding herbs for postpartum perineum care found that episiotomies and tears during childbirth can leave behind sore areas and dyspareunia. In the US, 35 out of every 100 women who gave birth had an episiotomy. It had been shown that aloe vera increased collagen content and degree of collagen cross-linkage within the wound. Studies showed that collagen increased 93% with topical aloe vera treatment and 67% with oral treatment, compared to controls[46.] .

Zawahry ME et all (2004) conducted a study at Cariro University, Egypt. The aim of the study was to evaluate aloe vera gel in the treatment of chronic ulcers. The sample consisted of 30 patients with chronic leg ulcers, and fresh aloe vera gel was applied. The finding was that after 5 weeks of treatment with aloe vera gel, there was growth of granulation tissue and decrease in size of ulcer[47].

D Mac Kay (2003), conducted a study to know, whether from accidental injury or surgical intervention, involves the activity of an intricate network of blood cells, tissue types, cytokines, and growth factors which results in increased cellular activity, which causes an intensified metabolic demand for nutrients. The botanical medicines centellaasiatica and aloe vera have been used for decades, both topically and internally, to enhance wound repair, and scientific studies are now beginning to validate efficacy and explore mechanisms of action for these botanicals. To promote wound healing in the

shortest time possible, with minimal pain, discomfort, and scarring to the patient, it is important to explore nutritional and botanical influences on wound outcome[48].

Levenson and Somova (2002), conducted a study in Russia, to treat periodontosis with Aloe extract. 92 patients were completely examined after 1ml aloe injections given daily for more than a month. Observations made were; 3−4 injections reduced bleeding from gums, itching of gums disappears; 6−8 injections result in disappearance of secretions from pockets, the unpleasant taste and odour in mouth disappear. After 12−15 injections, a sensation of freshness in oral cavity and feeling of stability of teeth is observed[49.]

Section E: Literature review related to effectiveness of complementary therapies on episiotomy wound healing and pain perception.

Akush ginekol (2011) conducted efficiency of cikartridina spray for healing of episiotomy and perineal rupture which included 90 women after spontaneous or operative vaginal delivery with episiotomy or a spontaneous perineal rupture treated with cikartridina spray. Control group of 90 women was used to compare the efficiency. The status of the wound was determined on the first, third, fifth and 30th day after birth, according to the presence of the symptoms. The study concluded that cikartridina spray effectively eliminates the symptoms; there is an earlier epithelisation after using cikartridina spray[50].

Sheikhan. F (2011), conducted a clinical trial in Iran, use of lavender oil for perineal healing, on 635 women using lavender oil and placebo following normal vaginal delivery for perineal healing. In this study mean discomfort score was lower in women using lavender oil. Thirty-one individuals (51.7%) in the lavender group and 13 individuals (21.7%) in the control group had no redness ($p = 0.001$).Edema more than 2 cm was not observed in the lavender group. The study concluded that use of lavender oil for perineal healing is effective[51].

Elizabeth .A (2008), conducted a study to compare the effect of ice bag and heat lamp for the relief of perineal discomfort. Forty took ice bag and heat lamp with random assignment of initial therapy. Women was rated the degree of perineal discomfort before and after each therapy and at half-hour, two hour and four hour intervals after each therapy. A discomfort scale, 18cm graphic rating scale was used. Results showed that the ice bag group significantly lower discomfort discomfort score than the heat lamp group. Therefore ice bag was significantly more effective in relieving perineal discomfort than heat lamp[52].

Graham ID (2006), conducted a study to determine the effect of a simple relaxation technique on postpartum patients episiotomy incisional pain Results showed that for the subjects who used the relaxation technique, there was a general trend for decreased pain and discomfort[53].

Hur.MH (2004), conducted a clinical trial of aromatherapy (lavender oil) on postpartum mother's perineal healing in Korea. They were allocated to one of three groups; the aroma-sitz bath group, aroma-soap application group or control group. To evaluate the effect of aromatherapy, the perineal healing status was measured using the REEDA scale and smears of episiotomy wound were obtained. The REEDA scale was significantly low in the experimental group at postpartum 5th and 7th days (P=.009, P=.003), respectively. In conclusion, these findings indicate that postpartum aromatherapy for perineal care is effective in healing the perineum[54].

Han.H (2004), conducted a clinical trial study to assess the effect of aromatherapy on a postpartum mothers perineal healing. Clinical trial was used aromatherapy was applied using essential oil with lavender rose neroli and roman chamomile. The three groups were assigned randomly and data were collected by using REEDA scale. The study revealed that REEDA score was low in experimental score. This finding indicates that postpartum aromatherapy for perineal care could be effective in healing the perineum[55].

Woolley.RJ (2003), conducted a study on effect of heat and cold applications on the perineum after episiotomy during the first 24 hours after delivery in Chicago. 90 patients were selected randomly to one of the three treatment groups 30 patients were treated with warm perineal pack and another 30 patients were treated with cold perineal pack and remaining 30 were treated with warm sitz bath. The redness, edema, ecchymosis, discharge, approximation (REEDA) tool was used to evaluate the episiotomy wound healing. Results showed that no difference in the REEDA score before or 2 hours after treatment[56].

Anna Corkill, et all (2002), conducted study on reducing post natal pain from perineal tears by using Lignocaine gel in Liverpool UK.. The study was to investigate typically applied 2% Lignocaine gel was an effective treatment. The result was using Lignocaine gel had lower average pain scores statistical significances at 48 hours after delivery. This study suggested that Lignocaine gel is effective on the second postnatal day[57].

Olson et all (1999), studied the analgesic efficacy of liquid ketoprofen compared with liquid dipyrone and placebo administered orally as drops in post episiotomy pain for 276 women,69 in each group ketoprofen 25 mg or 50 mg and dipyrone 500mg seems to be equally suited for pain relief. All treatments were well tolerated without any adverse effects[58].

Section F: Literature review related complications of episiotomy.

Serena Bertozzi, et.al (2015), conducted a study to know the impact of episiotomy on pelvic floor disorders and their influence on women's wellness after sixth month postpartum. Pelvic floor disorders are a highly common condition in the immediate postpartum: their prevalence is estimated at about 18.4% in primiparous women and 24.6% in multiparas. They tend to remit after the sixth month following delivery. The study results revealed that amongst the population, pelvic floor disorders are present at around one year postpartum in 40% of all cases, and have a substantial effect on the psycho-physical health of

women. Hence the study provides evidence that episiotomy is associated with significantly lower scores at the time of follow-up[59].

Sooklim thinkamrop (2007), conducted a study on the outcome of midline versus mediolateral episiotomy for complications such as extended tears, scar, wound infections and other complications. The outcome measures included deep perineal tears, other complications and women satisfaction at 48 hours and 6 weeks postpartum deep perineal tear occurred in 14.8% which is statistically higher compared to 7% in women who underwent a mediolateral episiotomy ($p<0.05$). The results revealed that midline episiotomy compared to mediolateral episiotomy resulted in more perineal tears[60].

Langer.B (2006), conducted a study on immediate and long term complication of episiotomy in Paris. When performed liberally, episiotomy appears to increase the risk of post partum bleeding. Patients who had an episiotomy complain of perineal pain more than those with an intact perineum or first or second degree tears. While episiotomy appears to be a source of dyspareunia during the first weeks after delivery in comparison with spontaneous tears. The study revealed that episiotomy appears to be cause of more perineal pain and dyspareunia during the early post partum week[61].

Sule.S and Shittu (2005), conducted a study in Ahmadu Bello University Teaching Hospital, zaria, Nigeria, on puerperal complications of episiotomy. The objective was to establish the epidemiological variables associated with episiotomy and their puerperal complications. The study results revealed that most common puerperal complications of episiotomy were perineal pain that lasted an average of 5.5 days. Other complication included asymmetry 32.9% infection 23.7%, partial dehiscence14.5%,skin tags 7.9%,haemorrhage 5.3% and extension of the incision 1.3%.The study showed that episiotomy rate is very high among primigravidae[62].

Regeth.JC et all (2004), conducted a study on late complications of episiotomy. The objective was comparison between median episiotomy, mediolateral episiotomy and no episiotomy regarding perineal discomfort,

wound healing and anal incontinence. Perineal pain was reported by 30% of women with mediolateral episiotomy as compared to19% of those with median episiotomy and 4.5% without episiotomy. The study revealed that good healing of adequately reconstructed perineal tears and the better outcomes of median episiotomy as compared to mediolateral episiotomy[63].

Chigbu.B (2003), conducted a study on factors influencing the performance of episiotomy during vaginal delivery in Abia, Nigeria. The study results revealed that factors that influence episiotomy were parity and maternal age, other risk factors were occipito posterior position, vacuum extraction, forceps delivery, vaginal breech delivery and a history of caesarean section. The study showed that episiotomy rate is 45 per 100 vaginal deliveries. Greater attention needed to be paid in order to avoid major perineal lacerations and increased length of hospital stay[64].

Dimitrov.A et all (2000), conducted a study on causes for healing complications in episiotomy. According to the study episiotomy healing is not influence by age, parity, duration of labour and the weight of neonate. The study concluded that the shorter time between rupture of membrane during labour and delivery and use of catgut stitches on the skin of the perineum shows tendency of poor healing of the episiotomy[65].

2.2 Conceptual frame work

The study was based on the concept that application of fresh aloe vera gel provides pain relief and wound healing among postnatal mothers receiving episiotomy. The investigator adopted the Weidenbach's Helping Art of Clinical Nursing Theory (1964) as a base for developing the conceptual framework. This theory directs on action towards an explicit goal. It has 3 factors

1. Central purpose
2. Prescription
3. Realities

1. Central purpose:

It refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives. In this study the main central purpose is to assess the effectiveness of fresh aloe vera gel application among postnatal mothers with episiotomy in pain relief and wound healing.

2. Prescriptions:

It refers to plan a care for a client. It will specify the nature of action that will fulfill the nurse's central purpose. In this study, the investigator plans to provide fresh aloe vera gel application to postnatal mothers with episiotomy in the experimental group, and assess the clients in the experimental group and provides hospital routine care to control group and on the 3rd day assessed for pain relief and wound healing

3. Realities:

It refers to the physical, physiological, emotional and spiritual factors that affect the nursing action. The five realities identified by Weidenbach's theory are agent, recipient, goal, means and activities and framework.

The conceptualization of nursing practice according to this theory consists of three steps as follows:

Step-1: Identifying the need for help

Step-2: Ministering the needed help

Step-3: Validating the help

Step-I- : Identifying the need for help

This step involves determining the need for help. The postnatal mothers with episiotomy were selected and are randomly assigned to experimental and control group by lottery method.

Step-2: Ministering the needed help

This step involves provision of required help for identified need. It has two components.

1. **Prescription**

   In this study, the investigator plans to provide fresh aloe vera gel application to postnatal mothers with episiotomy in the experimental group, and assess the clients in the experimental group and provides hospital routine care to control group and on the 3rd day assessed for pain relief and wound healing

2. **Realities:**

   In this study, the five realities identified by Weidenbach's theory are

a) **Agent** - Investigator
b) **Recipient** - Postnatal mothers with episiotomy
c) **Goal** - Reduction of pain perception and promotion of wound healing

d) Means:

Experimental group: Pre assessment was done in experimental group, fresh aloe vera gel was applied for half an hour twice daily for three days. Post assessment was done on the third day.

Control group: Pre assessment was done in control group, hospital routine care – warm water wash was given for three days. Post assessment was done on the third day.

e) Framework:

Post natal ward - IOG

Step-3: Validating the Help

The nurse validates the ministered help. It is accomplished by means of post assessment of the postnatal mothers with episiotomy on the 3rd day after rendering the selected nursing intervention that is, application of fresh aloe vera gel. Then the effectiveness of the intervention is compared between the experimental and control group.

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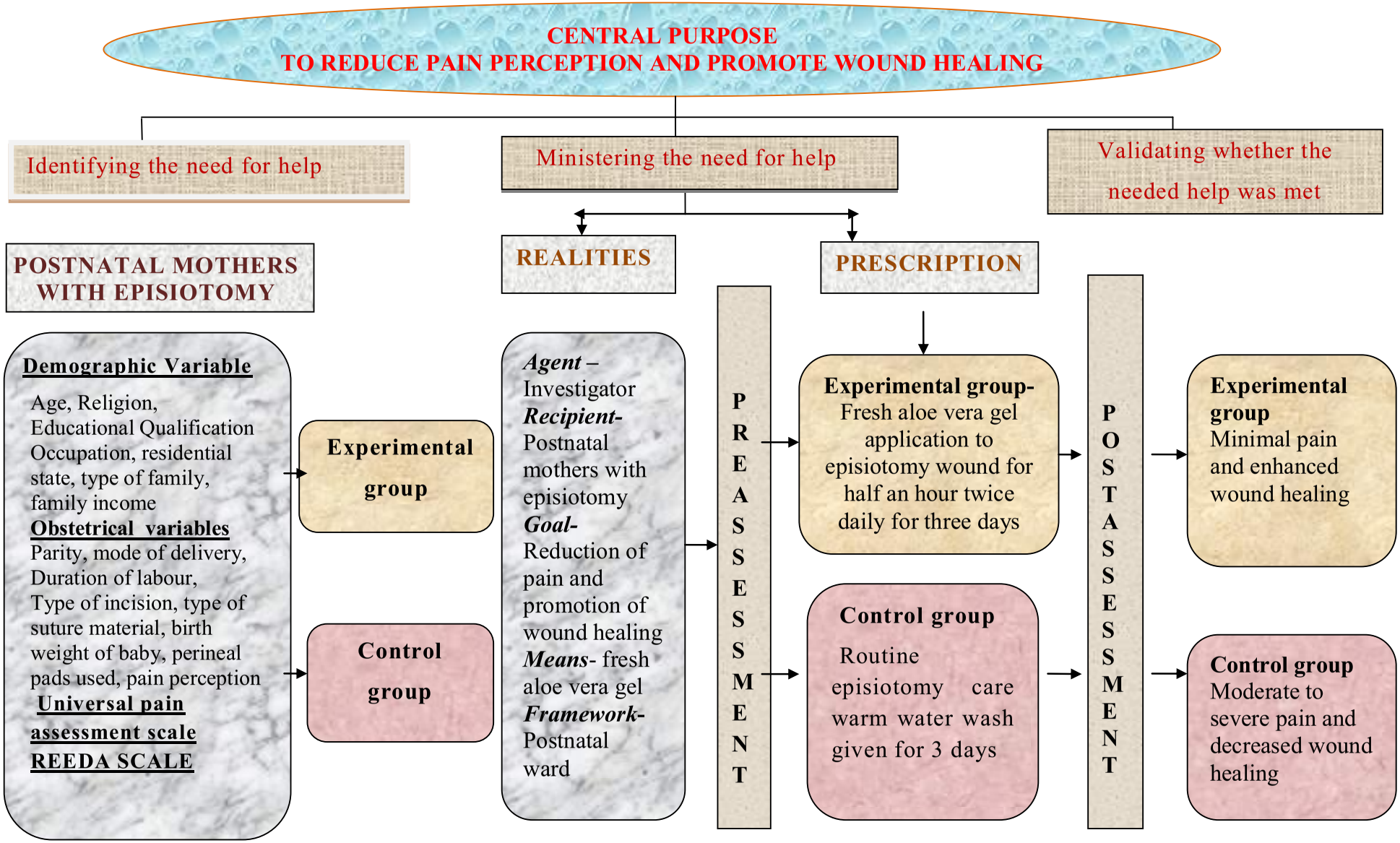

FIG NO: 2.2.1MODIFIED WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY

RESEARCH METHODOLOGY

CHAPTER-III

METHODOLOGY

This chapter deals with methodological approach adopted to evaluate the effectiveness of fresh aloe vera gel on pain relief and wound healing among post natal mothers. It includes description of research approach, research design, variables, study setting, population, sample size, sampling techniques, development and description of the tool, validity, reliability, pilot study, data collection procedure and data entry and analysis.

3.1 Research approach

The research approach tells the researcher from where the data to be collected, what to be collected, how to be collected and how to analyze them. The primary objective of the evaluative research approach is to determine the extent to which a given programme or procedure is effective.

A quantitative evaluative research approach using pre-assessment and post assessment was adopted for this study in order to accomplish the objectives.

3.2 Data collection period

The period of four weeks from 15.07.15 to 15.08.15

3.3 Study setting

The study was conducted at post natal ward in IOG, Chennai.

It is a 1075 bedded maternity hospital, tertiary care centre and referral centre, the institute was unveiled on 26th July 1844 for public service. The hospital is renowned for its excellence in medical expertise, nursing care and quality diagnostic services. All facilities are provided for conducting normal, high risk and instrumental deliveries. Various departments such as family

planning, blood bank, dental, endocrinology, human milk bank, neonatal intensive care units and oncology ward which are providing comprehensive care for entire Tamilnadu and for neighbouring states.

3.4 Research design

The research design used in this study was pre test and post test design of basic experimental design which comes under **True experimental design**

THE TURE EXPERIMENTAL DESIGN

GROUP	**PRE ASSESSMENT**	**INTERVENTION**	**POST ASSSESSMENT**
EXPERIMENTAL GROUP(NO 30)	**RE1**	**X**	**RE2**
CONTROL GROUP(NO 30)	**RC1**	**-**	**RC2**

Where,

RE1 - Pre assessment level of episiotomy wound status in randomized experimental group

RE2 - Post assessment level of episiotomy wound status in randomized experimental group

X - Application of fresh aloe vera gel on episiotomy wound

RC1 - Pre assessment level of episiotomy wound status in randomized control group

RE2 - Post assessment level of episiotomy wound status in randomized control group

In this study pre assessment level of episiotomy wound of the experimental and control group were measured by using REEDA scale and universal pain assessment scale followed by application of fresh aloe vera gel on episiotomy wound twice daily for half an hour for 3 days in experimental group. At the end the post assessment level of wound status were obtained from the mothers of both experimental and control group by using the same scale.

3.5 Study population

The population of the study comprised of postnatal mothers with episiotomy and were admitted in IOG, Chennai.

3.6 Sample size

The study sample comprises of post natal mothers who had normal vaginal delivery, instrumental delivery with episiotomy and fulfill inclusive criteria. The sample size for the study was 60.

Out of which 30 samples who receive fresh aloe vera gel application in episiotomy wound belong to the experimental group and 30 samples who are on routine episiotomy care warm water wash belong to the control group.

3.7 Sampling criterion

The researcher specified certain inclusion and exclusion characteristics for the population to be considered as a sample. Accordingly the population was studied and those that come under inclusion were selected as the sample and the other elements were excluded from the study.

3.7.1 Inclusion criteria:

1. Postnatal mothers who were available at the time the data collection.
2. Postnatal mothers who were willing to participate in the study
3. Postnatal mothers who have undergone normal and instrumental vaginal delivery with episiotomy.
4. Postnatal mothers who could understand read and write tamil language.

3.7.2 Exclusion criteria:

1. Postnatal mothers who were not willing to participate in the study.
2. Postnatal mothers who had severe complications in perineum.
3. Postnatal mothers who were having immediate postnatal complications

3.8 Sampling technique

The samples were selected by simple random sampling technique- the lottery method.

The researcher identified postnatal mothers available in the accessible population and a list of all the mothers was prepared every day. Each mother of the population was attributed a unique number. Each number was placed in bowl and blended in a through manner. And the researcher chose the number tags from the bowl. All the mothers who beard the numbers chosen by the researcher became the subjects for the study and the chosen numbers were not replaced back in the container.

3.9 Research variables

Independent Variable : Fresh aloe vera gel application

Dependent Variable : Pain perception and wound healing among mothers with episiotomy.

3.10 Development and description of the tool

3.10.1 Development of the tool

The researcher developed the tool on the basis of objective of the study. Tool was developed after extensive review of literature from various text book, journals, internet search and discussion and guidance from the experts in the field of nursing, Department of obstetrics and gynecology, statistician and personal experience of the researcher in the clinical filed. The tool was developed in English and translated into Tamil. Congruency was maintained in translation.

3.10.2 Description of the Tool

Data collection instrument consist of following sections:

- **Section A:** Demographic data.
- **Section B:** Obstetrical variable
- **Section C:** REEDA scale
- **Section D:** Universal pain assessment scale

Interpretation of the tool

Section – A

It is comprised of 7 items seeking information on demographic data of the postnatal mothers like age, religion, education, occupation, residence, type of family, income.

Section – B

It is comprised of 13 items seeking information on obstetrical data of the postnatal mothers like parity, type of delivery, duration of delivery, type of episiotomy, suture material used etc.

Section –C

The scale used was a standardized REEDA scale (Davidson 1974) which has five components namely Redness, Edema, Ecchymosis, Discharge, Approximation of wound edges.

Score interpretation:

To measure the episiotomy wound status REEDA scale was used which has four categories.

The four categories are

0 - healed

1-5 - moderately healed

6-10 - mildly healed

10-15 - not healed

Total score is 15. Higher the score, is more severe the infection.

Section – D

It consists of universal pain rating scale to denote the level of pain experienced due to episiotomy. This scale was arranged in numbers from zero (0) to ten (10) and according to the level of pain and discomfort experienced by the women due to episiotomy she need to put point on the scale using sketch pen.

0 No pain

1-3 Mild pain

4-6 Moderate pain

7-9 Severe pain

10 Excruciating pain

3.10.3 Validity of the tool

Validity of the tool was assessed using content validity. Content validity was determined by experts from Nursing and Medical. They suggested certain modifications in the tool. After the modifications they agreed this tool for assessing effectiveness of fresh aloe vera application over episiotomy wound, among postnatal mothers in IOG, Chennai.

3.11 Ethical consideration

The study objectives, intervention, tool and data collection procedure were approved by the research and ethics committee of the institution. The research proposal was approved by the experts prior to the pilot study and permission for the main study was obtained from the Director and Head of IOG, Chennai. An informed consent was obtained from study participants before starting the data collection. Assurance was given for confidentiality and privacy.

3.12 Pilot study

The pilot study was conducted in postnatal ward of IOG. By simple random sampling technique, ten postnatal mothers with episiotomy selected.

Pre assessment of episiotomy wound status was done by using REEDA scale and universal pain rating scale. For experimental group, fresh aloe vera gel applied on episiotomy wound and for control group hospital routine care warm water wash given. Post assessment was done after 3 days of immediate intervention by REEDA scale and universal pain rating scale. The study showed the feasibility to conduct the proposed study as planned. These samples were not included in the main study.

3.13 Reliability

After pilot study, reliability of the tool was assessed by using inter rater method and its correlation coefficient r –value values were 0.88(pain) and 0.84(wound healing). These correlation coefficients were very high and it was good tool for assessing effectiveness of aloe vera gel on pain and healing of episiotomy wound among postnatal mothers.

3.14 Data collection procedure

Formal permission was obtained from the Director and Head of IOG. The data collection was done for the period of 4weeks. The postnatal mothers who have undergone episiotomy were assured that the data collected will be kept confidential. Samples were selected by using simple random sampling technique by lottery method. Daily 2 samples in experimental and in control group were selected for this study.

Phase-1: Pre Assessment

The investigator introduced herself and established rapport by explaining the purpose of the study. Informed consent was obtained and confidentiality was maintained. In pre assessment demographic variables, REEDA scale and universal pain rating scale in both experimental and control group were assessed.

Intervention protocol:

Preparation at home:

- ❖ Aloe vera leaf was cut from plant; sterile blade was used to cut its sides. Another sterile blade was used to slice the upper and lower green skin of the leaf.
- ❖ The clear gel is removed and cut into pieces of 3cm*2cm*1cm (length *breadth*width) and placed in the sterile guaze piece and packed.

Procedure at hospital:

	Experimental group	**Control group**
Place	Postnatal ward	Postnatal ward
Dose	3cm*2cm*1cm- Fresh aloe vera gel	Routine care
Duration	3 days	-
Frequency	Twice a day for half an hour	-
Time	7.30 am and 3.30 pm	-
Applied by	Applied by the investigator	-
Recipient	Postnatal mother	Postnatal mother

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Application of fresh aloe vera gel to postnatal mother with episiotomy wound:

❖ Perineal care was provided to the mother and prepared fresh aloe vera gel was applied in the episiotomy wound and sanitary pad was placed and left for half an hour for experimental group.

❖ In control group routine hospital care- warm water wash was given by the researcher.

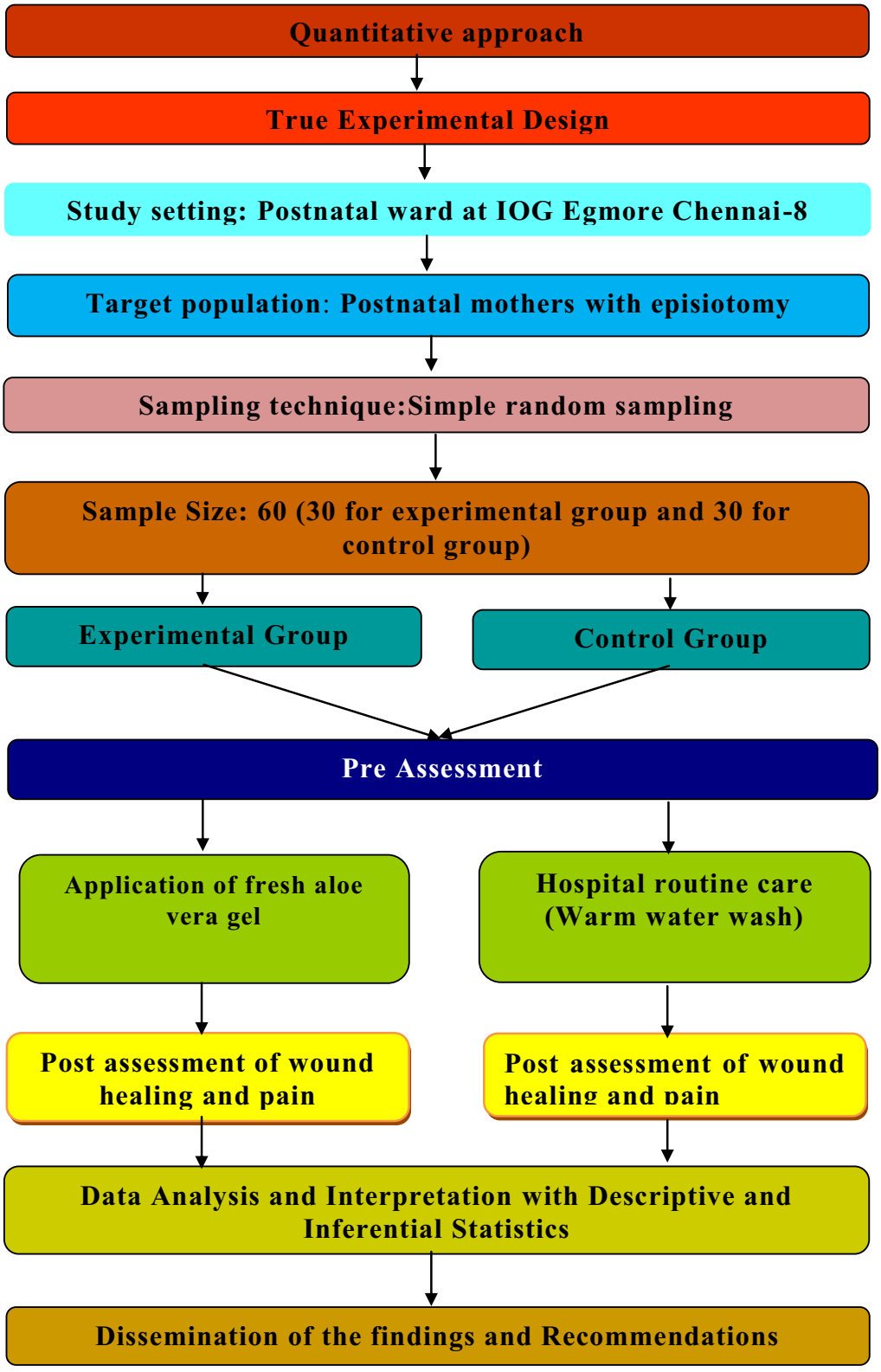
Phase- II: Post Assessment

The investigator conducted the post assessment level of pain perception and episiotomy wound healing by the end of third day immediately after the last intervention by using REEDA scale and universal pain assessment scale

3.15 Data entry and analysis

The data were analyzed using descriptive statistics such as mean, standard deviation, frequency, percentage and inferential statistics such as paired‘t’ test, unpaired ‘t’ test, Chi square test and fishers exact test.

FIGURE 3.1: SCHEMATIC REPRESENTATION OF THE RESEARCH STUDY DESIGN



DATA ANALYSIS AND INTERPRETATION

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collection from 60 mothers to assess the effectiveness of fresh aloe vera gel application on pain relief and healing of episiotomy wound among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Chennai.

The findings were tabulated and interpreted in this chapter. The data were analyzed by using descriptive and inferential statistics. The data were analyzed based on the objectives formulated by the researcher. The analyzed data were tabulated under tables and figures under the sections given below.

Organization of the data

SECTION-I: a) Description of the demographic profile of postnatal mothers who underwent episiotomy in the experimental and control group.

b) Description of the distribution of obstetrical variables of experimental group and control group of postnatal mothers

SECTION-II: a) Data on pre assessment level of healing of episiotomy wound and pain score status on experimental group and control group of postnatal mothers

b) Data on post assessment level of healing of episiotomy wound and pain score status on experimental group and control group of postnatal mothers

SECTION-III: Data on comparison of post assessment level of healing of episiotomy wound and pain score status on experimental group and control group of postnatal mothers.

SECTION-IV: Effectiveness of the pre assessment and post assessment level of healing of episiotomy wound and pain score status on experimental group and control group of postnatal mothers

SECTION-V: Association between the levels of episiotomy wound healing and pain in selected demographic variables and obstetrical variables of postnatal mothers (experimental group)

Statistical analysis

- Demographic variables in categorical/dichotomous were given in frequencies with their percentages.
- Wound healing and Pain score was given in mean and standard deviation.
- Association between level of wound healing and pain reduction score and demographic variables were analysed using Pearson chi-square test.
- Difference between experiment and control was analysed using student independent t-test.
- Difference between pretest and posttest was analysed using student dependent t-test
- Differences between pretest and post test score was analysed using mean difference with 95% Confidence interval.
- $P<0.05$ was considered statistically significant.

SECTION-I: a) This section describes the demographic profile of postnatal mothers who underwent episiotomy in the experimental and control group.

Table 4.1: Distribution of the demographic profile

Demographic variables		Group			
		Experiment		Control	
		Frequency	In %	Frequency	In %
Age	21 – 25	24	80.0	18	60.0
	26-30	5	16.7	12	40.0
	Above 30	1	3.3	0	0.0
Religion	Hindu	24	80.0	26	86.7
	Christian	5	16.7	4	13.3
	Muslim	1	3.3	0	0.0
Educational qualification	Non formal	1	3.3	2	6.7
	Primary	8	26.7	18	60.0
	Secondary	11	36.7	3	10.0
	Graduate and above	10	33.3	7	23.3
Occupation	House wife	25	83.3	28	93.3
	Working women	5	16.7	2	6.7
Residence	Rural	4	13.3	3	10.0
	Urban	26	86.7	27	90.0
Family type	Nuclear family	14	46.7	15	50.0
	Joint family	16	53.3	15	50.0
Income	<Rs.5000	8	26.7	9	30.0
	Rs.5000-10000	11	36.7	10	33.3
	> Rs.10000	11	36.7	11	36.7

- With regard to **age**, majority of the postnatal mothers (80%) in experimental group and (60%) in the control group were in the age group between 21-25 yrs.

- Regarding **religion**, majority of the postnatal mothers (80%) in experimental group and (86.7%) in control group were Hindus

- In terms of **educational qualification,** majority of the postnatal mothers (36.7%) in experimental group studied up to secondary school level and (60%) in the control group studied up to primary school level.

- According to **occupation**, majority of the postnatal mothers (83.3%) in experimental group and (93.3%) in control group were home makers.

- In view of **residence**, majority of the postnatal mothers (86.7%) in experimental group and (90%) in control group were residing at urban area.

- In means of **family type**, majority of the postnatal mothers (53.3%) in experimental group and (50%) in control were living in joint family.

- With regard to **family monthly income status**, majority of the postnatal mothers (36.7%) in experimental group and (36.7%) in control group were earning more than Rs.10000 per month.

FIGURE 4.1 AGE WISE DISTRIBUTION OF POSTNATAL MOTHERS

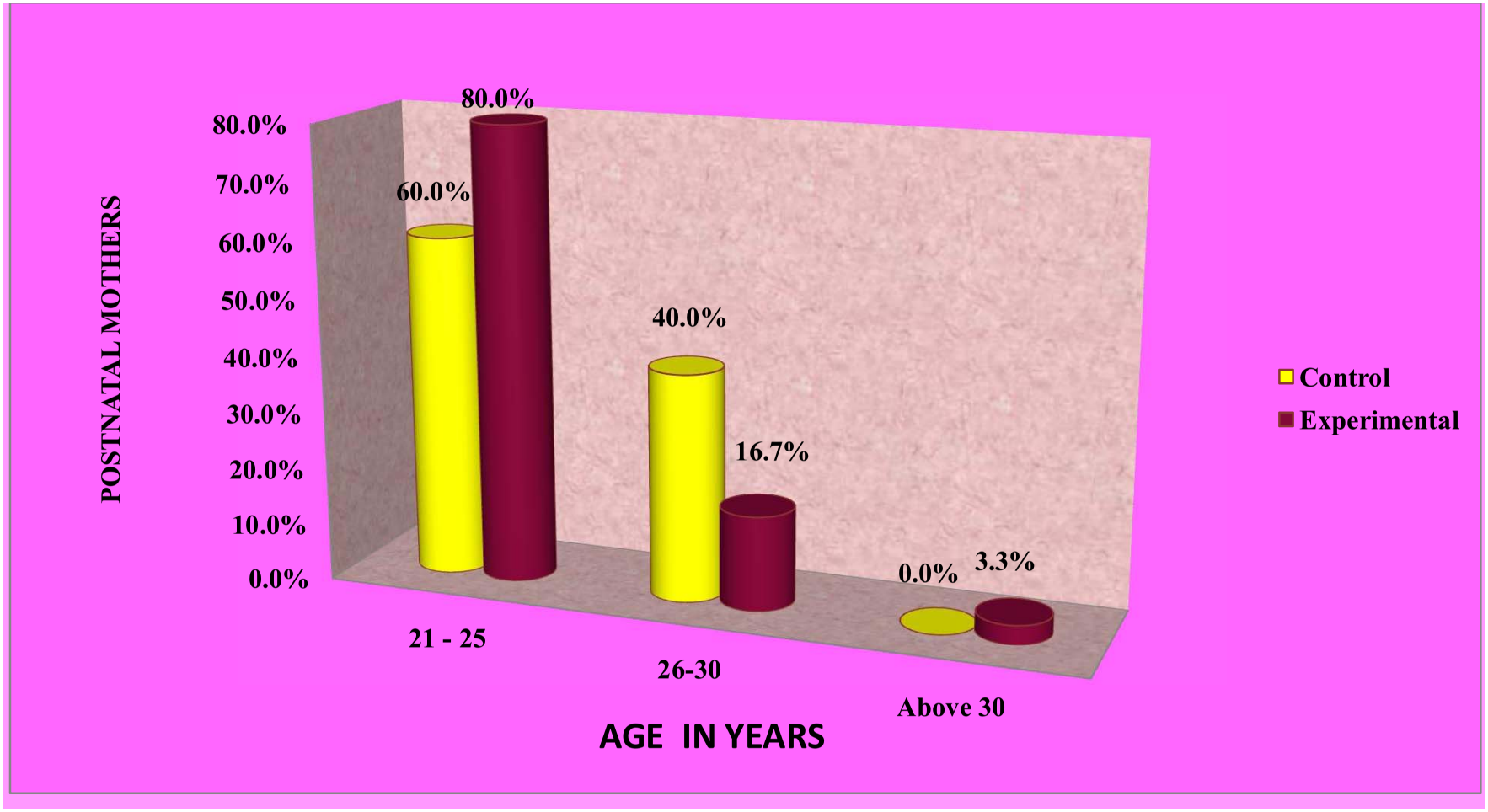


FIGURE 4.2 RELIGION WISE DISTRIBUTION OF POSTNATAL MOTHERS

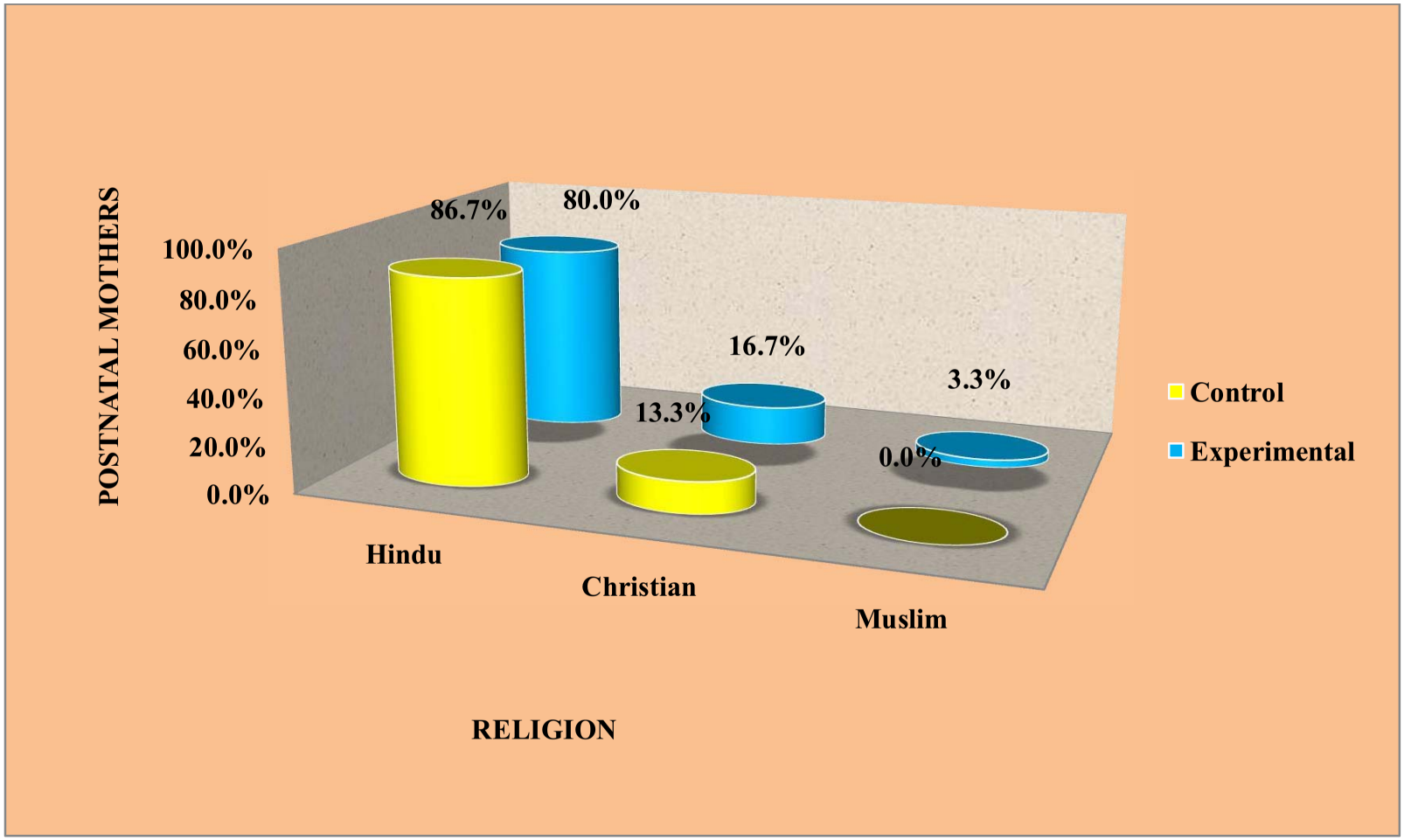


FIGURE 4.3 EDUCATIONAL STATUS WISE DISTRIBUTION OF POSTNATAL MOTHERS

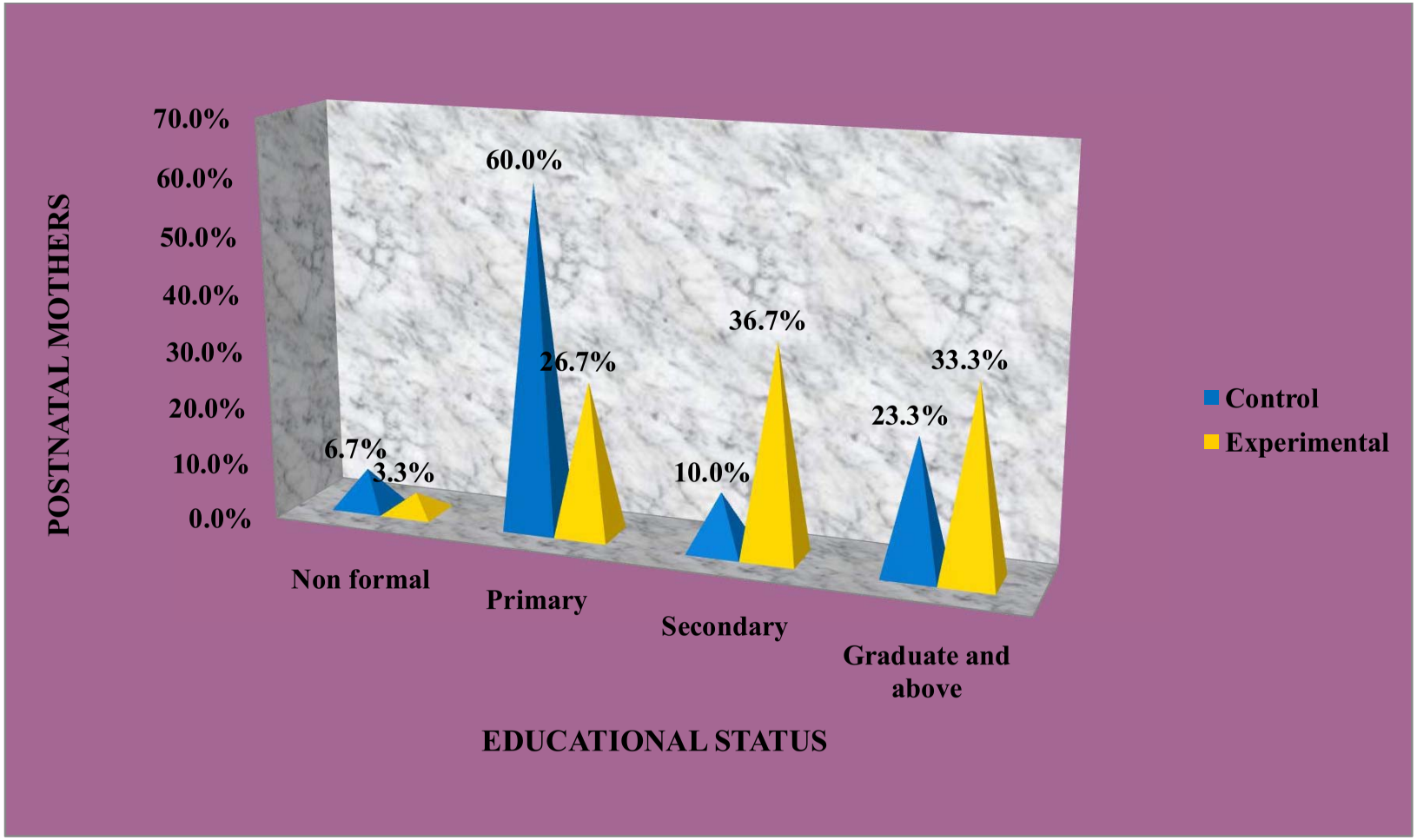


FIGURE 4.4 OCCUPATION WISE DISTRIBUTION OF POSTNATAL MOTHERS

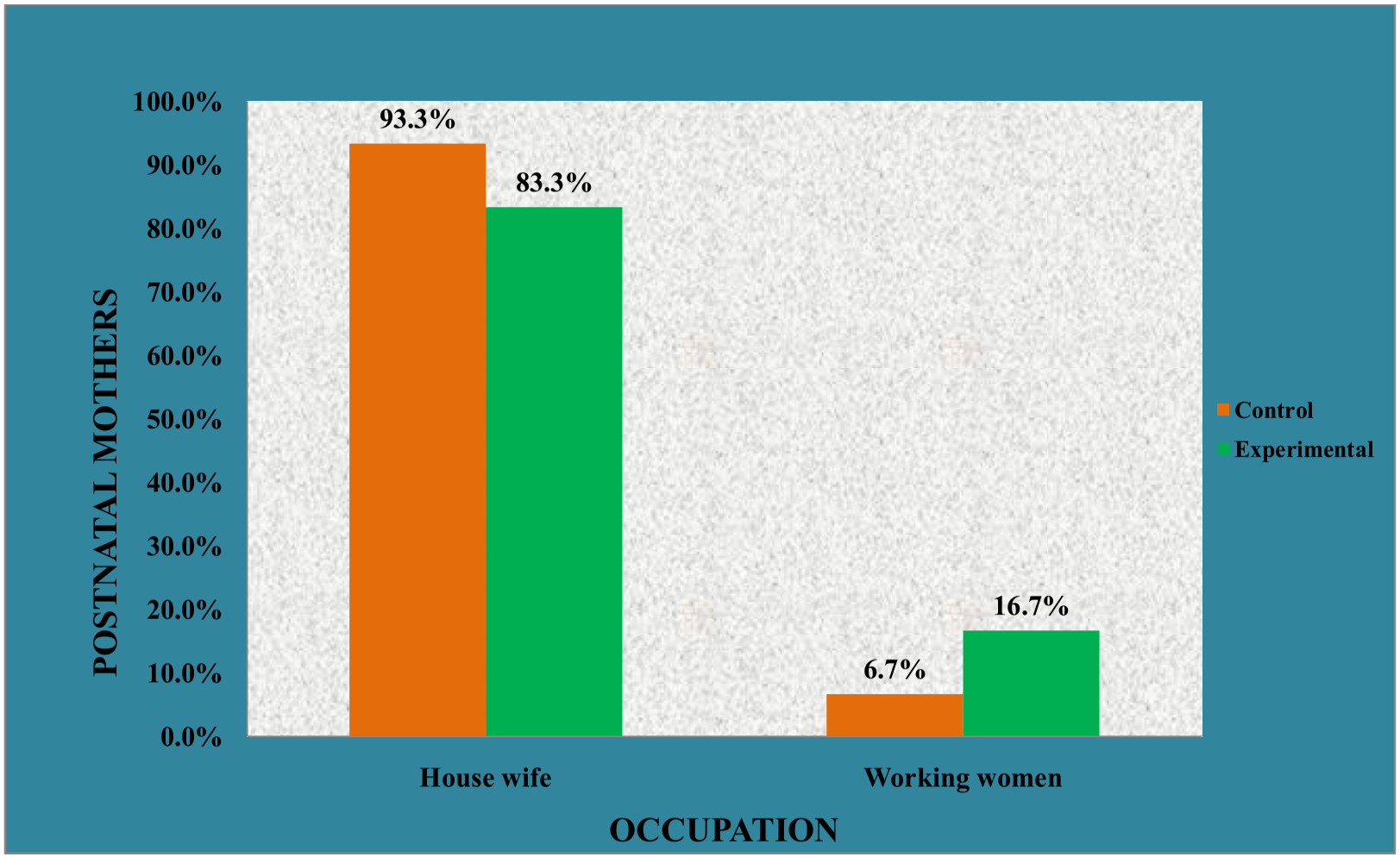


FIGURE 4.5 RESIDENCE WISE DISTRIBUTION OF POSTNATAL MOTHERS

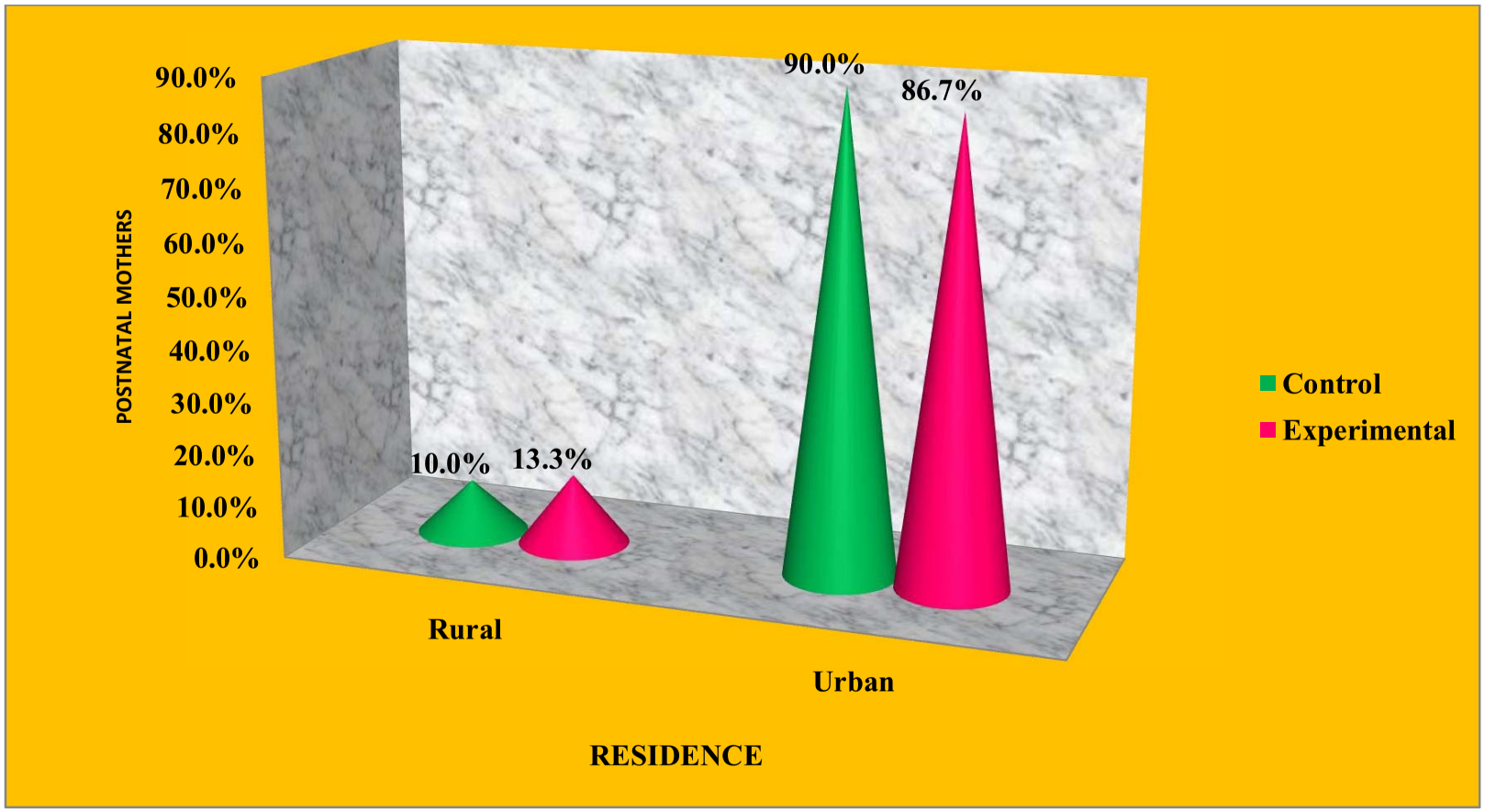


FIGURE 4.6 FAMILY TYPE WISE DISTRIBUTION OF POSTNATAL MOTHERS

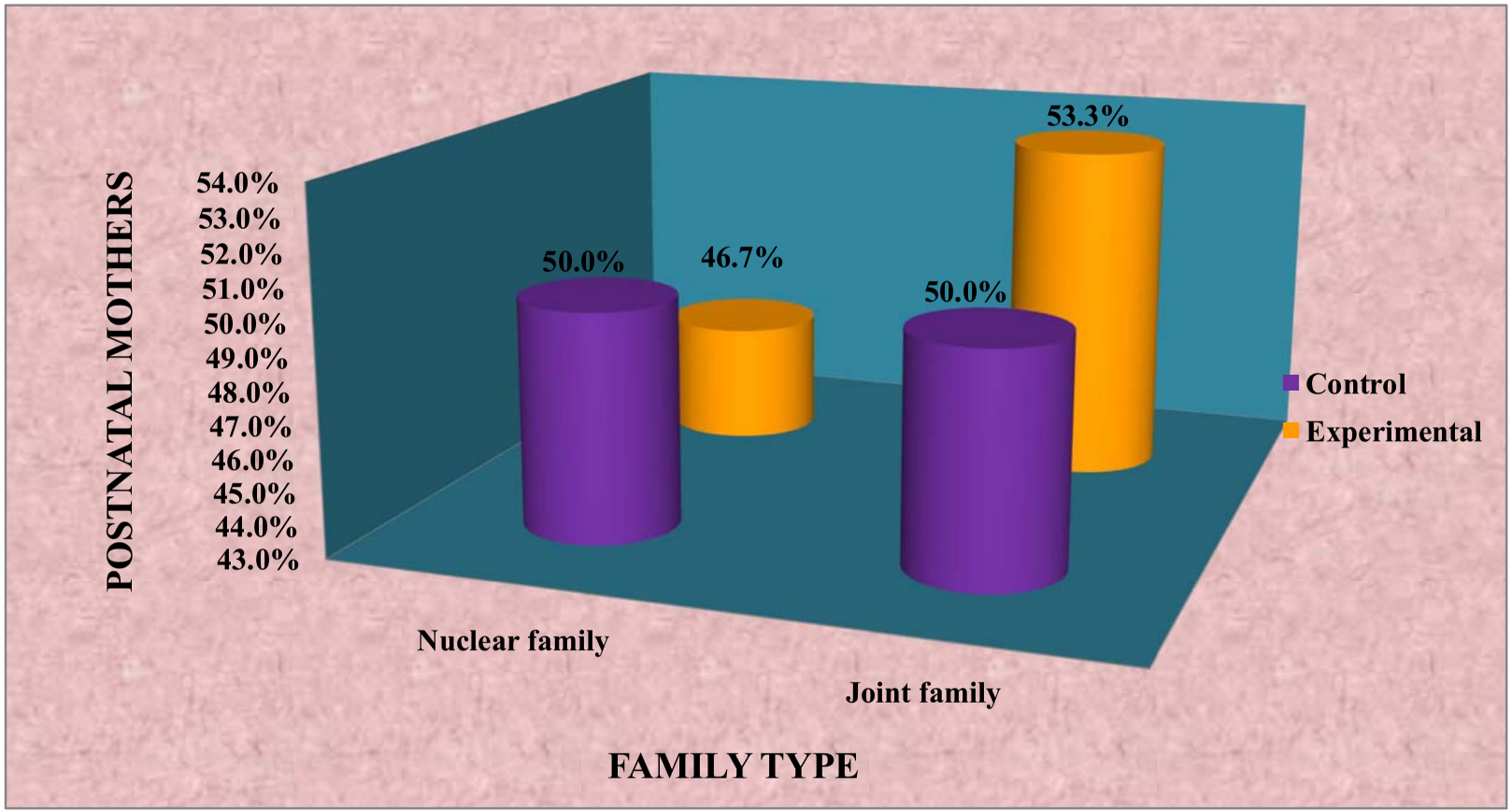
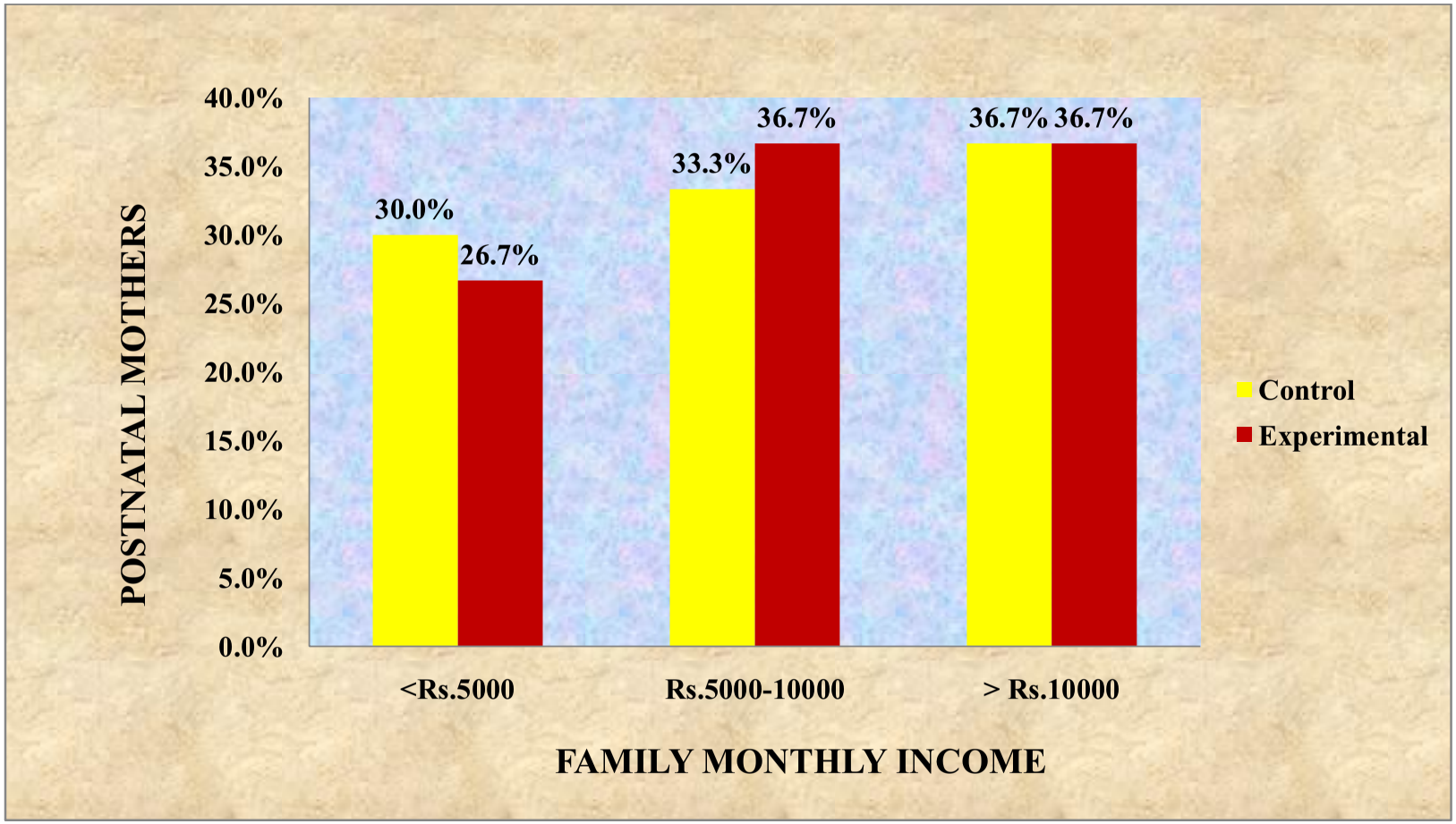


FIGURE 4.7 FAMILY MONTHLY INCOME WISE DISTRIBUTION OF POSTNATAL MOTHERS



SECTION-I: b) This section describes the distribution of obstetrical variables of experimental group and control group of postnatal mothers

Table 4.2: Distribution of the obstetrical variables

Obstetrical variables		Group			
		Experiment		Control	
		Frequency	In %	Frequency	In %
Parity	Primigravidae	22	73.3	16	53.3
	Multigravidae	8	26.7	14	46.7
Mode of delivery	Labour natural	28	93.3	29	96.7
	Forceps	1	3.3	1	3.3
	Ventouse	1	3.3	0	0.0
Duration of labour	Less than 8 hours	9	30.0	12	40.0
	8 -16 hours	17	56.7	14	46.7
	Over 16 hours	4	13.3	4	13.3
Type of incision	Mediolateral	30	100.0	30	100.0
Anaesthesia used	Yes	30	100.0	30	100.0
Type of suture material	Chromic	30	100.0	30	100.0
	Silk	0	0.0	0	0.0
	Vicryl	0	0.0	0	0.0
Birth weight	2 Kg-3 Kg	16	53.3	23	76.7
	> 3 Kg	14	46.7	7	23.3
perineal pads used	3-4 pads	20	66.7	21	70.0
	5-6 pads	7	23.3	5	16.7
	> 6 pads	3	10.0	4	13.3
Awareness on episiotomy	Yes	17	58.6	22	73.3
	No	12	41.4	8	26.7
Pain perception	Good	7	23.3	2	6.7
	Better	13	43.3	15	50.0
	Bad	10	33.3	13	43.3
Alternatives	Yes	9	30.0	15	50.0
	No	21	70.0	15	50.0

- With regard to **parity**, majority of the postnatal mothers (73.3%) in experimental group and (53.3%) in the control group were primigravidae.

- Regarding **mode of delivery**, majority of the postnatal mothers (93.3%) in experimental group and (96.7%) in the control group underwent labour natural.

- In terms of **duration of labour**, majority of the postnatal mothers (56.7%) in experimental group and (46.7%) in the control group labour duration was up to 8-16 hours

- According to the **type of incision**, majority of the postnatal mothers (100%) in experimental group and (100%) in the control group were given mediolateral episiotomy.

- In regard to **use of local anaesthesia**, majority of the postnatal mothers (100%) in experimental group and (100%) in the control group were given local anaesthesia

- Regarding the **type of suture material**, majority of the postnatal mothers (100%) in experimental group and (100%) in the control group chromic catgut was used.

- With regard to **number of perineal pads,** majority of the postnatal mothers (66.7%) in experimental group and (70%) in control group used 3-4 pads.

- With regard to **awareness on episiotomy,** majority of the postnatal mothers (58.6%) in experimental group and (73.3%) in control group were aware of episiotomy.

FIGURE 4.8 PARITY WISE DISTRIBUTION OF POSTNATAL MOTHERS

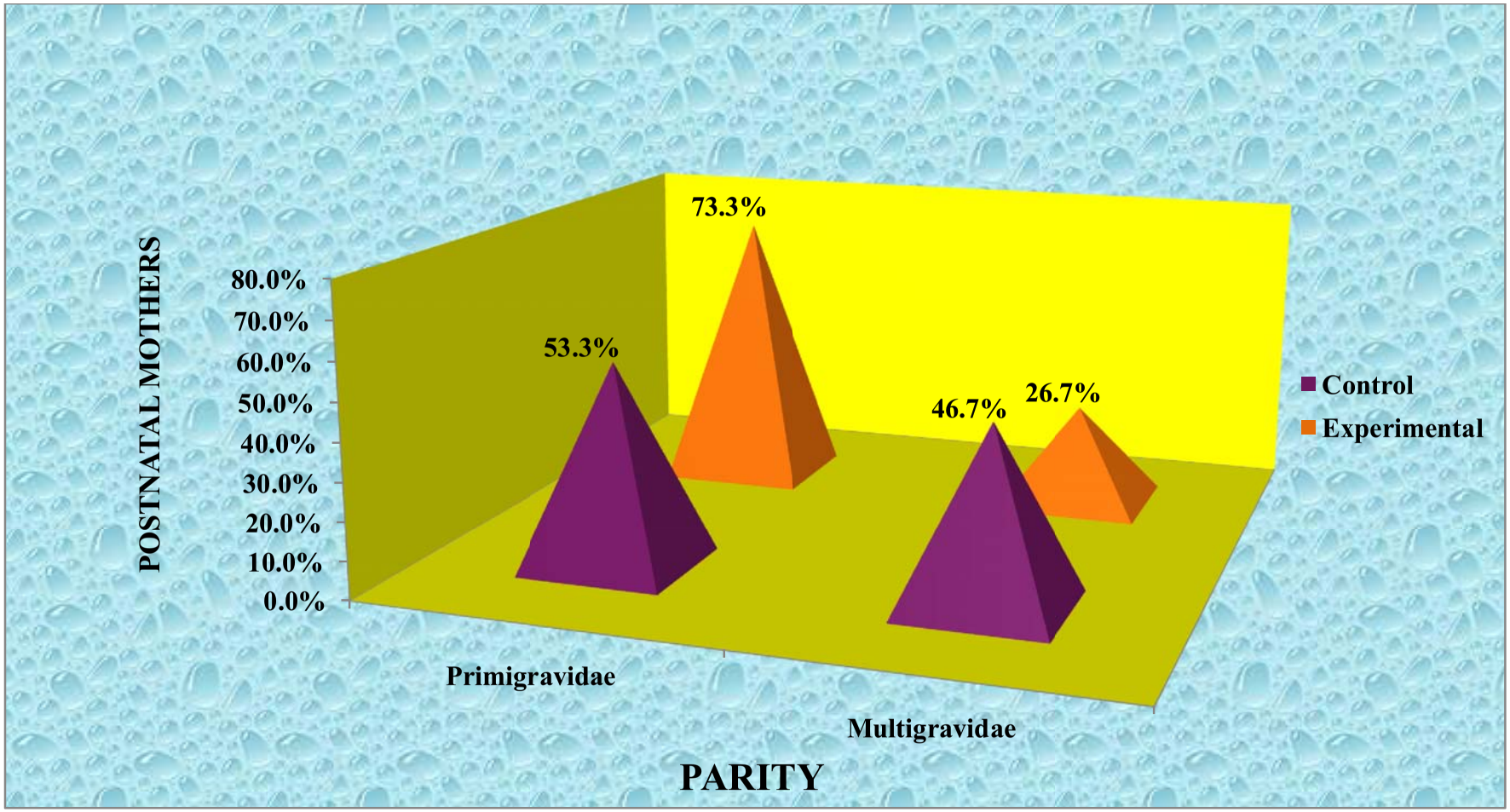
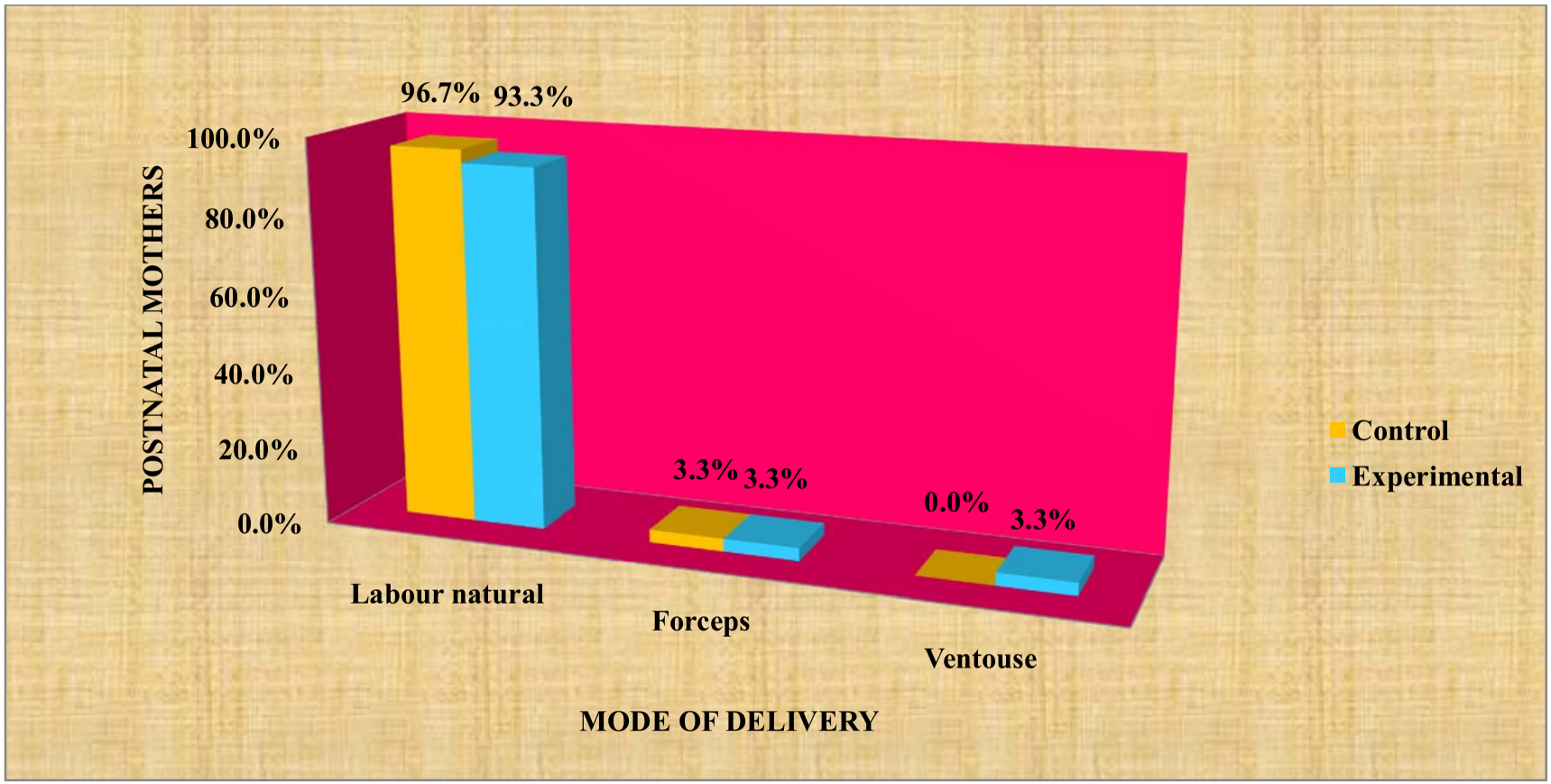


FIGURE 4.9 MODE OF DELIVERY WISE DISTRIBUTION OF POSTNATAL MOTHERS



SECTION-II: a) Data on pre assessment level of healing of episiotomy wound and pain perception on experimental group and control group of postnatal mothers.

Table 4.3: Pre assessment level of wound healing and pain perception

Scale	Components	Experimental group		Control group	
		Frequency	%	Frequency	%
REEDA scale	Healed	0	0.0	0	0.0
	Moderately healed	2	6.7	5	16.7
	Mildly healed	28	93.3	25	83.3
	Not healed	0	0.0	0	0.0
Pain scale	No Pain	0	0.0	0	0.0
	Mild	0	0.0	0	0.0
	Moderate	1	3.3	2	6.7
	Severe	29	96.7	27	90.0
	Excruciating pain	0	0.0	1	3.3

- In pre assessment level of wound healing showed that there was not much difference in wound healing between experimental group and control group. In experimental group, 6.7% of the postnatal mothers were having moderate wound healing, 93.3% were having mild wound healing. In control group, 16.7% of the postnatal mothers were having moderate wound healing, 83.3% were having mild wound healing.

- In pre assessment level of pain perception showed that there was not much difference in pain perception between experimental and control group. In experiment group, 3.3% of the postnatal mothers were having moderate pain, 96.7% were having severe pain. In control group, 6.7% of the postnatal mothers were having moderate pain, 90% were having severe pain and 3.3% were having excruciating pain.

FIGURE 4.10: PRE ASSESSMENT LEVEL OF WOUND HEALING BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP

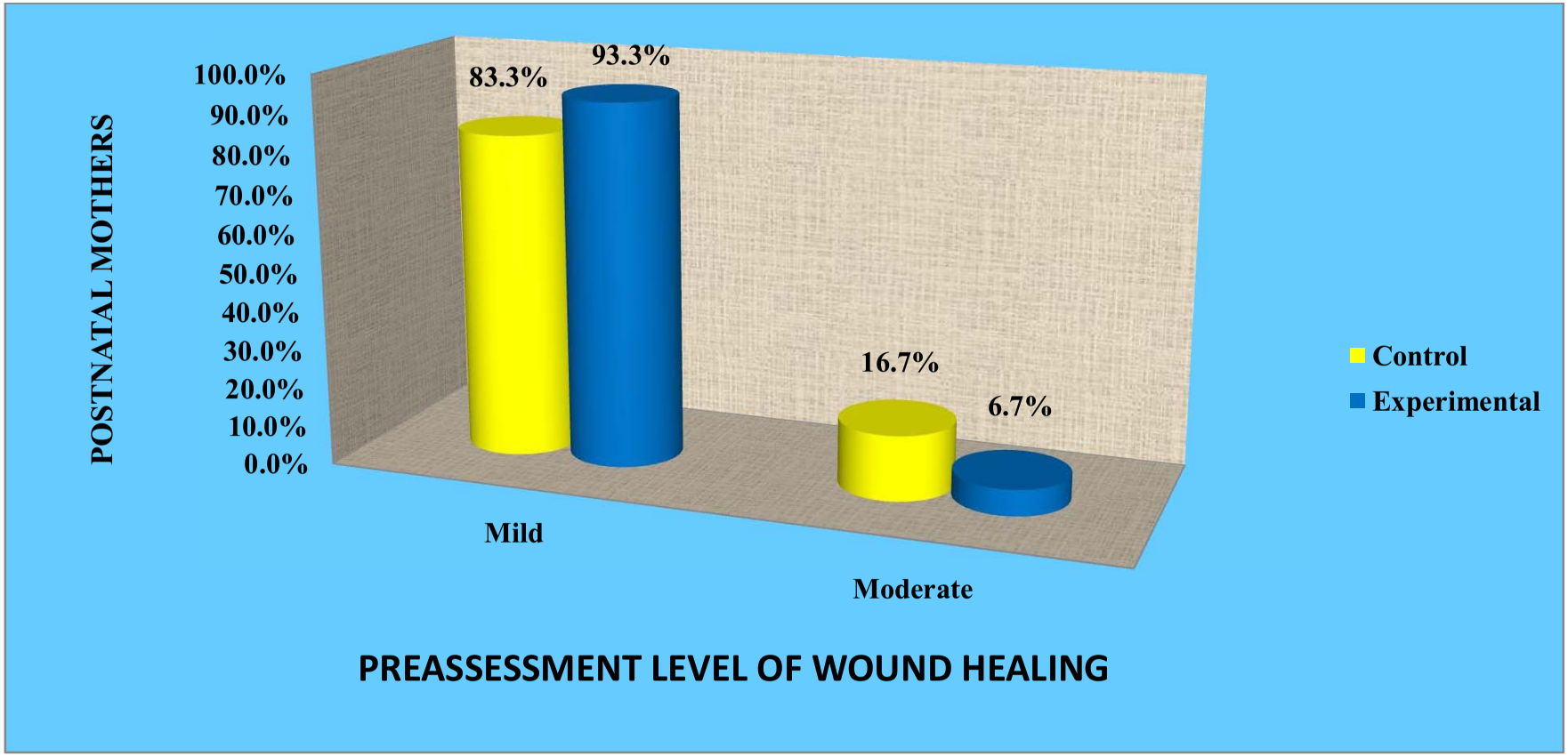
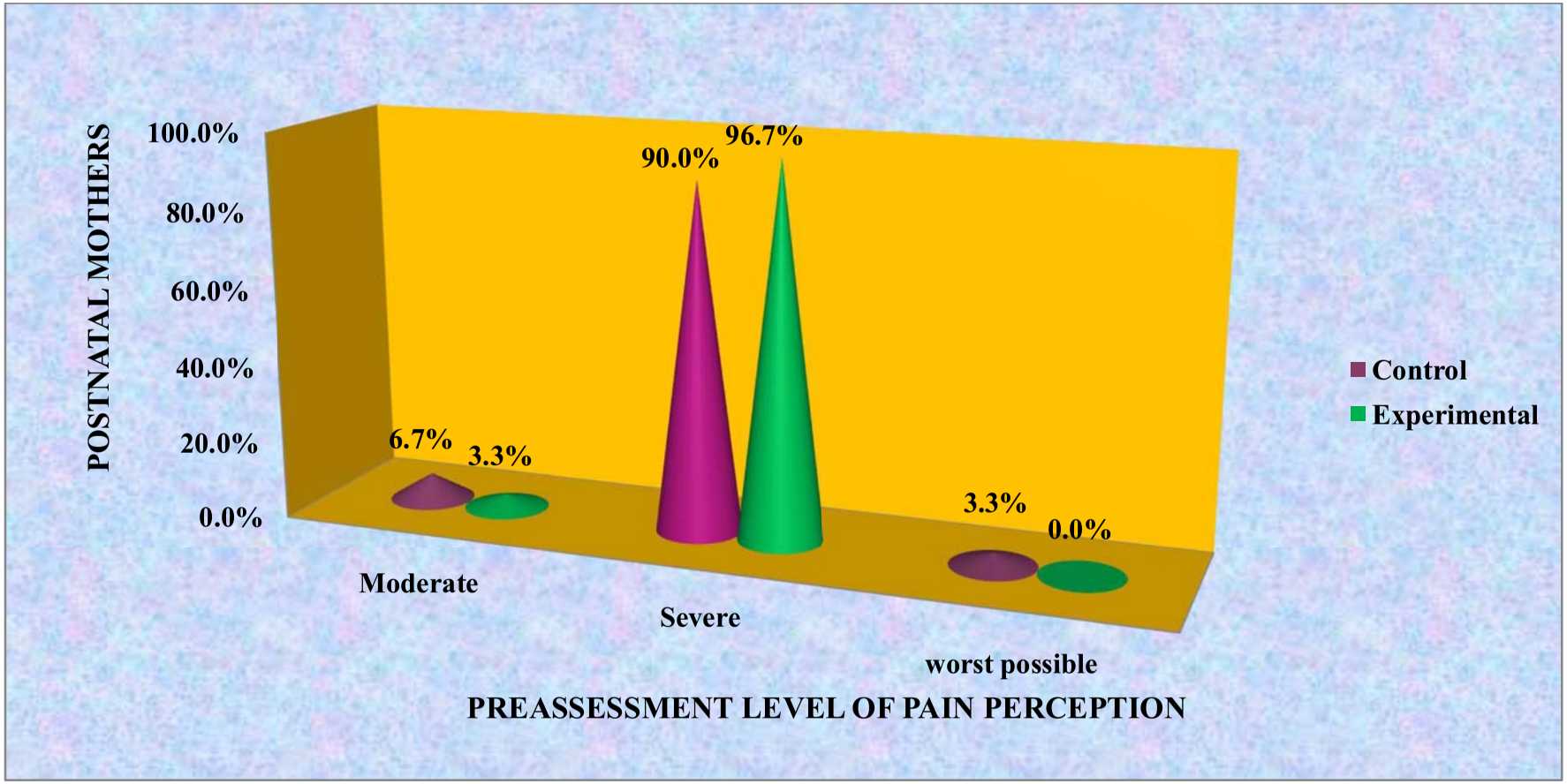


FIGURE 4.11: PREASSESSMENT LEVEL OF PAIN PERCEPTION BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP



SECTION-II: b) Data on post assessment level of healing of episiotomy wound and pain perception on experimental group and control group of postnatal mothers

Table 4.4: Post assessment level of wound healing and pain perception

Scale	Components	Experimental group		Control group	
		Frequency	%	Frequency	%
REEDA scale	Healed	19	63.3	0	0.0
	Moderately healed	0	0.0	0	0.0
	Mildly healed	11	36.7	30	100.0
	Not healed	0	0.0	0	0.0
Pain scale	No Pain	1	3.3	0	0.0
	Mild	17	56.7	0	0.0
	Moderate	12	40.0	22	73.3
	Severe	0	0.0	8	26.7
	Excruciating pain	0	0.0	0	0.0

- In post assessment level of wound healing in experimental group, 63.3% of the postnatal mothers wound were healed, and 36.7% were having mild wound healing. In control group, 100% of the postnatal mothers were having mild wound healing.
- In post assessment level of pain perception in experiment group, 56.7% of the postnatal mothers were having mild pain, 40% were having moderate pain and 3.3% were having no pain. In control group, 73.3% of the postnatal mothers were having moderate pain, 26.7% were having severe pain.

FIGURE 4.12: POST ASSESSMENT LEVEL OF WOUND HEALING BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP

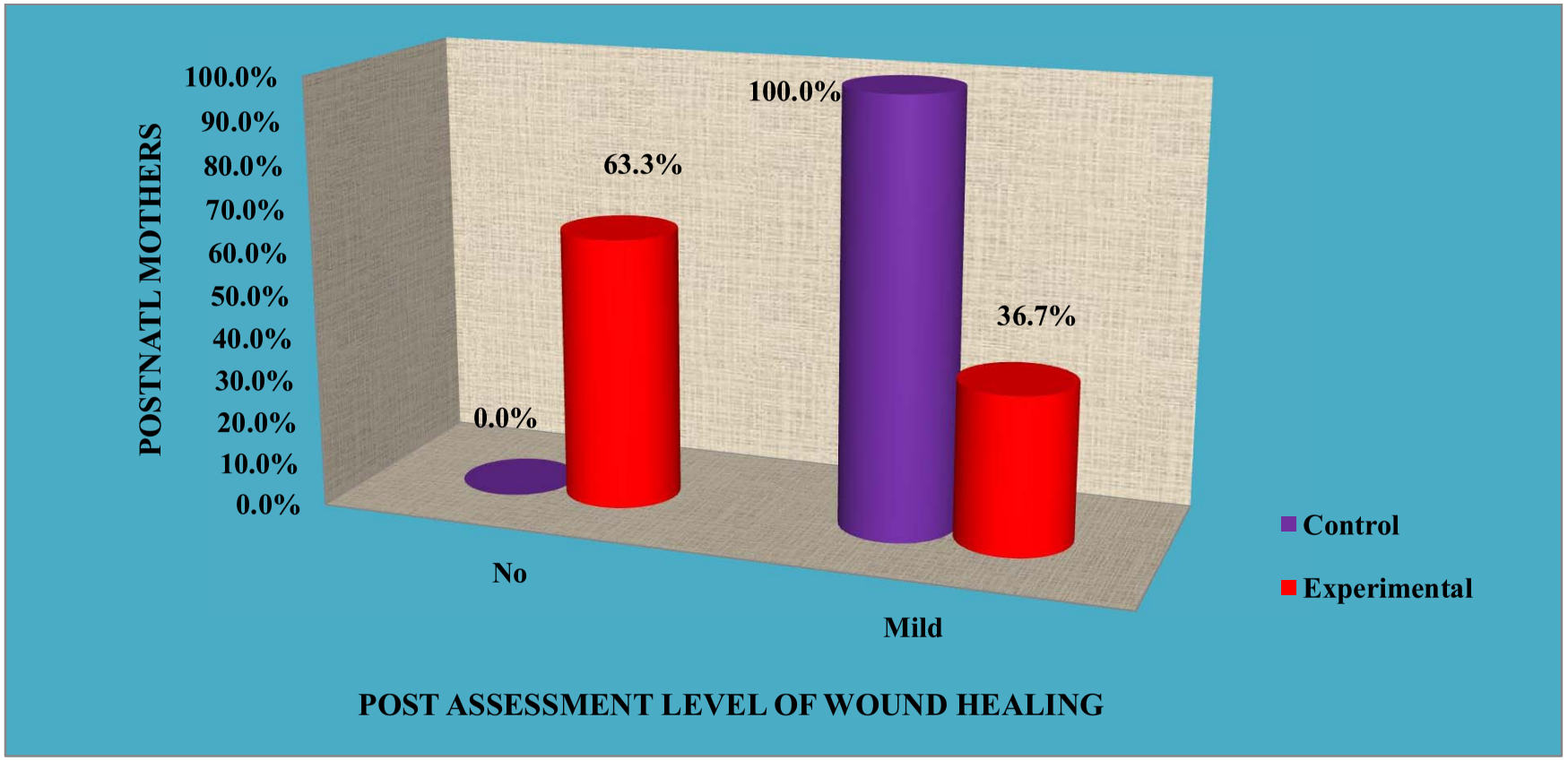
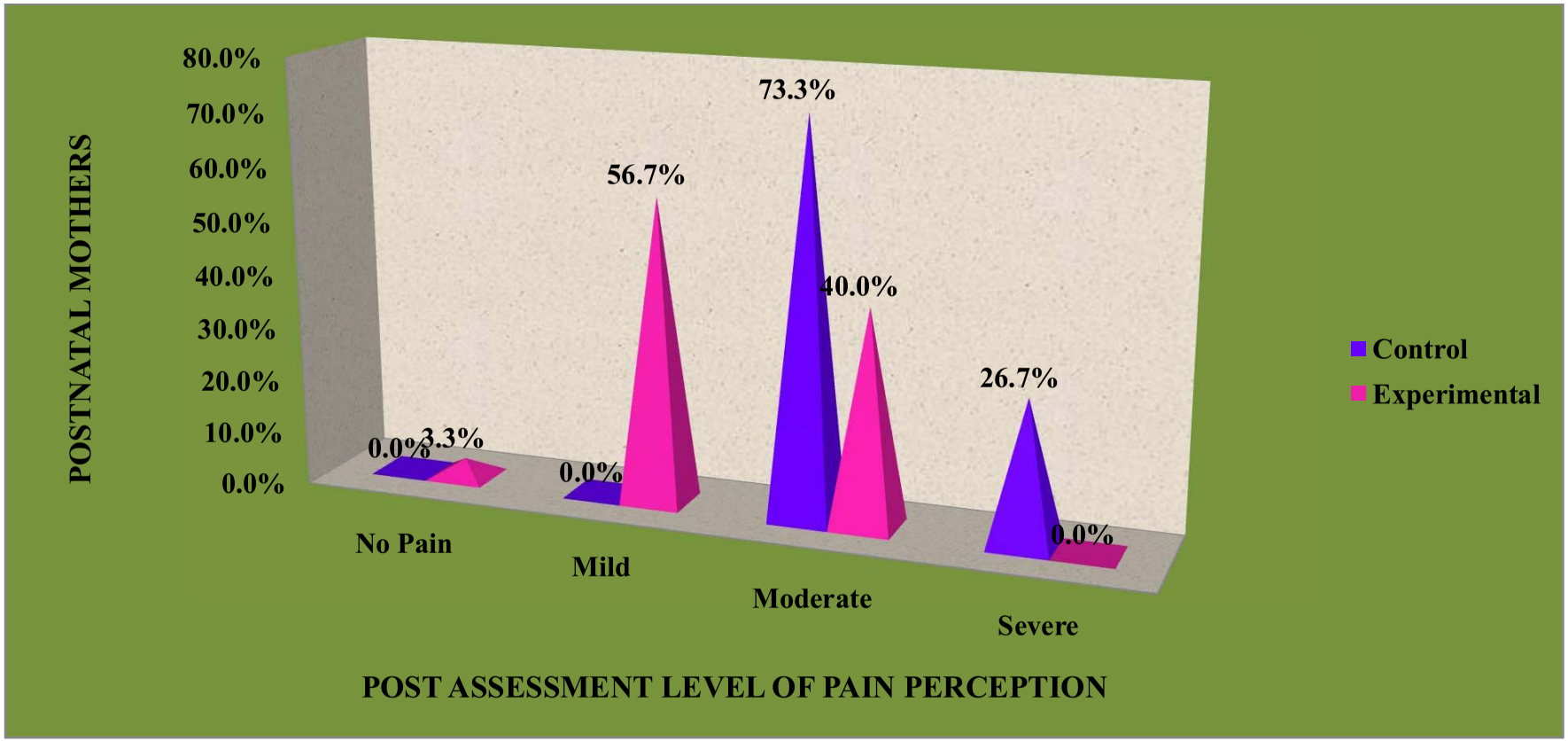


FIGURE 4.13: POST ASSESSMENT LEVEL OF PAIN PERCEPTION BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP



SECTION-III: Data on comparison of post assessment level of healing of episiotomy wound and pain perception status on experimental group and control group of postnatal mothers

Table 4.5: Comparison of pre assessment and post assessment level of healing of episiotomy wound and pain perception:

Test	Variables	No. of women	Experiment	Control	Mean difference	Student's independent t-test
			Mean ± SD	Mean ± SD		
Pre - test	Wound healing	30	3.93 ± 0.980	4.80 ± .805	0.867	t=3.742 P=0.101
	Pain	30	7.87 ± 0.776	8.07±1.015	0.200	t=0.857 P=0.395
Post-test	Wound healing	30	0.37± 0.490	2.27 ±0.740	1.900	t=11.728 P =0.001***
	Pain	30	2.10±1.094	5.80±1.031	3.700	t=13.485 P=0.001***

*Significant at P≤0.05

** Highly significant at P≤0.01

***Very highly significant P≤ 0.001

In pre assessment, experiment group postnatal mothers were having 3.93wound healing score and control group postnatal mothers were having 4.80 wound healing score, so the difference was 0.867, this difference was small and it was not statistically significant difference.

In pre assessment, experiment group postnatal mothers were having 7.87 pain score and control group postnatal mothers were having .8.07 pain score, so the difference was 0.200, this difference was small and it was not statistically significant difference.

In post assessment, experiment group postnatal mothers were having 0.37 wound healing score and control group were having 2.77 wound healing score, so the difference was 1.900, this difference was large and it was statistically significant difference.

In post assessment, experiment group postnatal mothers were having 2.10 pain score and control group were having 5.80 pain score, so the difference was 3.70, this difference was large and it was statistically significant difference.

Table 4.6: Comparison of pre test and post test

Group	variables	No. of women	Pretest	Post test	Mean difference	Student's paired t-test
			Mean ± SD	Mean ± SD		
Experimental group	Wound healing	30	3.93±0.980	0.37±.490	3.56	t=20.888 P=0.002***
	Pain	30	7.87±.776	2.10±1.094	5.77	t=27.109 P=0.001***
Control group	Wound healing	30	4.80±.805	2.27±.740	2.53	t=22.066 P=0.01*
	Pain	30	8.07±1.015	5.80±1.031	2.27	t=27.603 P=0.01*

*Significant at P≤0.05

** Highly significant at P≤0.01

***Very highly significant P≤ 0.001

The computed 't' value of wound healing (20.888) and pain (27.109) is greater than table value 2.05 (t29=2.05, p<0.05). Hence aloe vera gel was effective in episiotomy wound healing and pain.

FIGURE 4.14: MEAN COMPARISON OF PRE TEST AND POST TEST LEVELS OF WOUND HEALING IN EXPERIMENTAL GROUP AND CONTROL GROUP

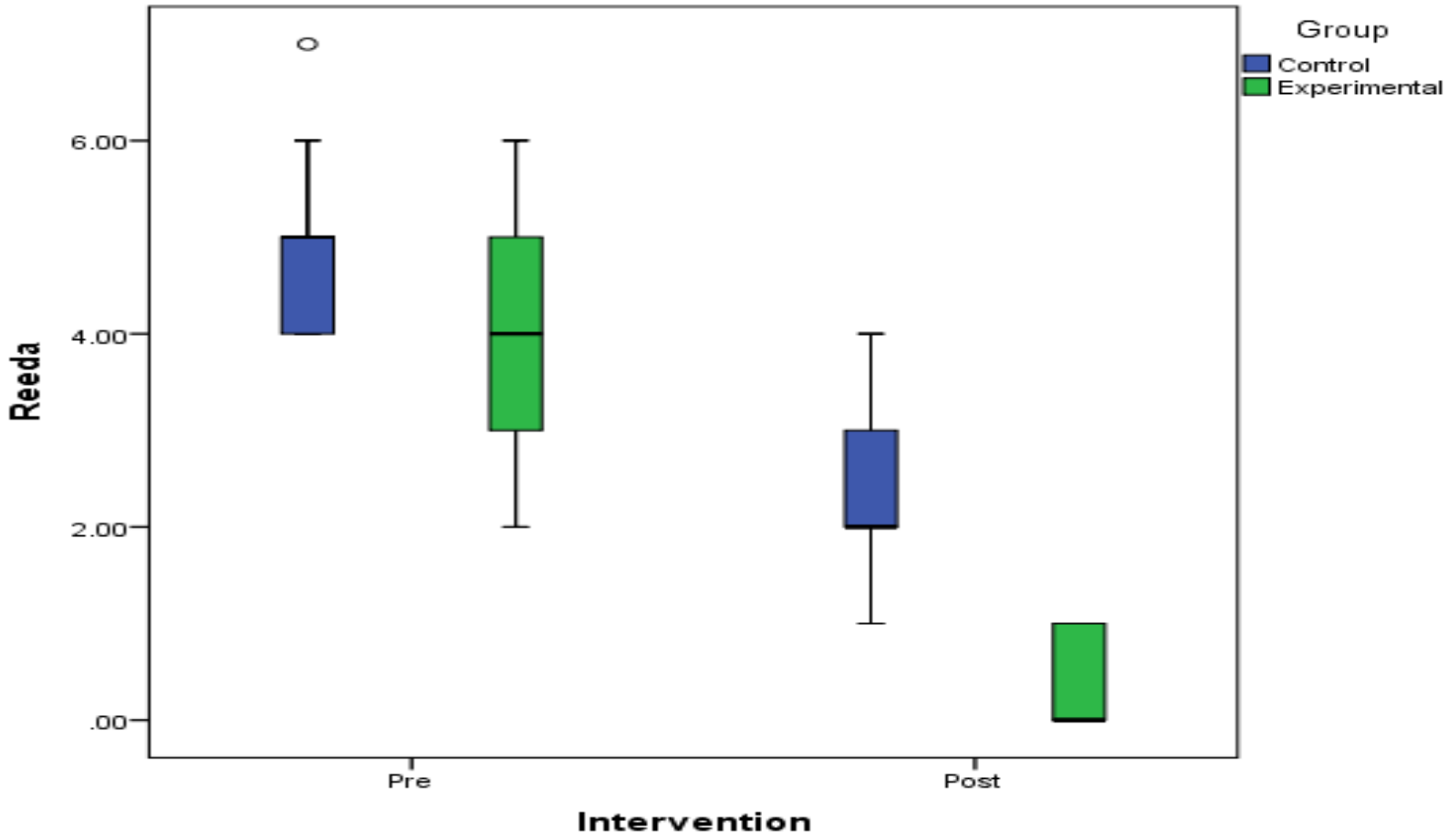
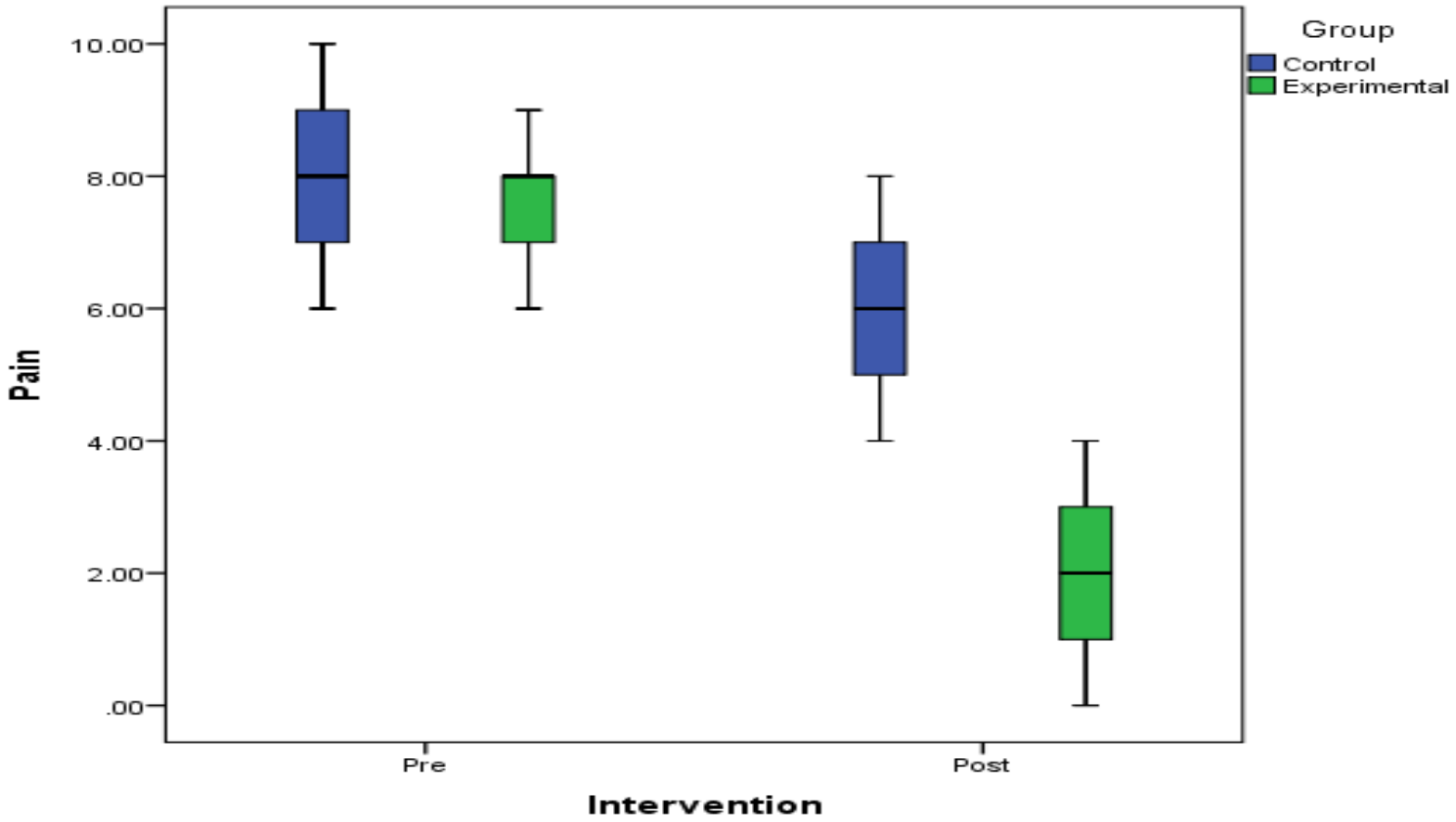


FIGURE 4.15: MEAN COMPARISON OF PRE TEST AND POST TEST LEVELS OF PAIN PERCEPTION IN EXPERIMENTAL GROUP AND CONTROL GROUP



SECTION-IV: Effectiveness of the pre assessment and post assessment level of healing of episiotomy wound and pain perception between experimental group and control group of postnatal mothers

Table 4.7: Effectiveness of fresh aloe vera gel on healing of episiotomy wound and pain perception:

Group	Variables	Test	Max score	Mean score	Mean Difference with 95% Confidence interval	Percentage Difference with 95% Confidence interval
Experiment	Wound healing	Pre test	15	3.93	3.57	35.7%
		Post test	15	0.36		
	Pain perception	Pre test	10	7.86	5.76	57.6%
		Post test	10	2.1		
Control	Wound healing	Pre test	15	4.8	2.54	25.4%
		Post test	15	2.26		
	Pain perception	Pre test	10	8.06	2.26	22.6%
		Post test	10	5.8		

Regarding wound healing, in experimental group 35.7% had enhanced wound healing than in control group and regarding pain, in experimental group 57.6% had pain reduction than in control group.

Differences between pre test and post test score were analyzed using proportion with 95% confidence interval. It showed the effectiveness of the study.

SECTION- V: Association between the levels of episiotomy wound healing and pain perception in selected demographic variables and obstetrical variables of postnatal mothers (experimental group)

Table 4.8: Association between post assessment levels of episiotomy wound healing in selected demographic variables of postnatal mothers (experimental group)

Demographic variables		Level of wound healing				Total	Chi square test / fishers exact test
		Healed		Mildly healed			
		Frequency	In %	Frequency	In %		
Age	21 – 25	14	73.7	10	90.9	24	$\chi 2=1.435$ p=0.488
	26-30	4	21.1	1	9.1	5	
	Above 30	1	5.3	0	0.0	1	
Religion	Hindu	15	78.9	9	81.8	24	$\chi 2=0.61$ p=0.737
	Christian	3	15.8	2	18.2	5	
	Muslim	1	5.3	0	0.0	1	
Educational qualification	Non formal	1	5.3	0	0.0	1	$\chi 2=11.562$ p=0.009*
	Primary	8	42.1	0	0.0	8	
	Secondary	3	15.8	8	72.7	11	
	Graduate and above	7	36.8	3	27.3	10	
Residence	Rural	2	10.5	2	18.2	4	Fishers exact = 0.353 P=0.47
	Urban	17	89.5	9	81.8	26	
Family type	Nuclear family	10	52.6	4	36.4	14	Fishers exact=0.38 p=0.317
	Joint family	9	47.4	7	63.6	16	

*Significant at P≤0.05

**Highly significant at P≤0.01

***Very highly significant P≤ 0.001

Table 4.8 showed postnatal mothers with secondary educational status had increased wound healing. Statistical significance was calculated using chi square test.

Table 4.9: Association between post assessment levels of episiotomy wound healing in selected obstetrical variables of postnatal mothers (experimental group)

Obstetrical variables		Level of wound healing				Total	Chi square test
		Healed		Mildly Healed			
		Frequency	In %	Frequency	In %		
Parity	Primigravidae	12	63.2	10	90.9	22	$\chi 2=2.744$
	Multigravidae	7	36.8	1	9.1	8	p=0.098*
Mode of delivery	Labour natural	18	94.7	10	90.9	28	$\chi 2=2.317$
	Forceps	1	5.3	0	0.0	1	p=0.314
	Ventouse	0	0.0	1	9.1	1	
Perineal pad used	3-4 pads	13	68.4	7	63.6	13	$\chi 2=0.154$
	5-6 pads	4	21.1	3	27.3	4	p=0.926
	>6 pads	2	10.5	1	9.1	2	
Awareness towards episiotomy	Yes	12	66.7	5	45.5	12	$\chi 2=1.226$
	No	6	33.3	6	54.5	6	p=0.260
Pain perception	Good	6	31.6	1	9.1	7	$\chi 2=2.293$
	Better	8	42.1	5	45.5	13	p=0.318
	Bad	5	26.3	5	45.5	10	

*Significant at P≤0.05

** Highly significant at P≤0.01

***Very highly significant P≤ 0.001

Table 4.9 showed primigravidae mothers had increased wound healing. Statistical significance was calculated using chi square test.

Table 4.10: Association between post assessment levels of pain perception in selected demographic variables of postnatal mothers (experimental group)

Demographic variables		Level of pain						Total	Chi square test / fishers exact test
		No pain		Mild pain		Moderate pain			
		Frequency	In %	Frequency	In %	Frequency	In %		
Age	21 – 25	1	100.0	13	76.5	10	83.3	24	$\chi 2=2.740$ p=0.602
	26-30	0	0.0	4	23.5	1	8.3	5	
	Above 30	0	0.0	0	0.0	1	8.3	1	
Religion	Hindu	1	100.0	15	88.2	8	66.7	24	$\chi 2=4.578$ p=0.333
	Christian	0	0.0	1	5.9	4	33.3	5	
	Muslim	0	0.0	1	5.9	0	0.0	1	
Educational qualification	Non formal	0	0.0	1	5.9	0	0.0	1	$\chi 2=8.546$ p=0.201
	Primary	0	0.0	7	41.2	1	8.3	8	
	Secondary	1	100.0	3	17.6	7	58.3	11	
	Graduate and above	0	0.0	6	35.3	4	33.3	10	
Occupation	House wife	1	100.0	15	88.2	9	75.0	25	$\chi 2=1.094$ p=0.579
	Working women	0	0.0	2	11.8	3	25.0	5	
Income	<Rs.5000	0	0.0	5	29.4	3	25.0	8	$\chi 2=3.153$ p=0.532
	Rs.5000-10000	1	100.0	7	41.2	3	25.0	11	
	> Rs.10000	0	0.0	5	29.4	6	50.0	11	

Statistical significance was calculated using chi square test. No significance was present in the association between levels of pain perception and their demographic variables.

Table 4.11: Association between post assessment levels of pain perception in selected obstetrical variables of postnatal mothers (experimental group)

Obstetrical variables		Level of pain						Total	Chi square test
		No pain		Mild pain		Moderate pain			
		Frequency	In %	Frequency	In %	Frequency	In %		
parity	Primigravidae	1	100.0	9	52.9	12	100.0	22	$\chi 2=8.342$
	Multigravidae	0	0.0	8	47.1	0	0.0	8	p=0.015*
mode of delivery	Labour natural	1	100	16	94.1	11	91.7	28	$\chi 2=2.274$
	Forceps	0	0.0	1	5.9	0	0.0	1	p=0.685
	Ventouse	0	0.0	0	0.0%	1	8.3	1	
Duration of delivery	Less than 8 hours	0	0.0	7	41.2	2	16.7	9	$\chi 2=2.804$
	8 -16 hours	1	100.0	8	47.1	8	66.7	17	p=0.591
	Over 16 hours	0	0.0	2	11.8	2	16.7	4	
Birth weight	2 Kg-3 Kg	0	0.0	7	41.2	9	75.0	16	$\chi 2=4.416$
	Above 3 Kg	1	100.0	10	58.8	3	25.0	14	p=0.110
perineal pads used	3-4 pads	1	100.0	11	64.7	8	66.7	20	$\chi 2=0.611$
	5-6 pads	0	0.0	4	23.5	3	25.0	7	p=0.962
	> 6 pads	0	0.0	2	11.8	1	8.3	3	
Awareness on episiotomy	Yes	0	0.0	11	68.8	6	50.0	17	$\chi 2=2.461$
	No	1	100.0	5	31.3	6	50.0	12	p=0.292

*Significant at $P \leq 0.05$

** Highly significant at $P \leq 0.01$

***Very highly significant $P \leq 0.001$

Table 4.11 showed primigravidae mothers had reduced pain perception. Statistical significance was calculated using chi square test.

FIGURE 4.16: ASSOCIATION BETWEEN LEVELS OF WOUND HEALING AND EDUCATIONAL STATUS

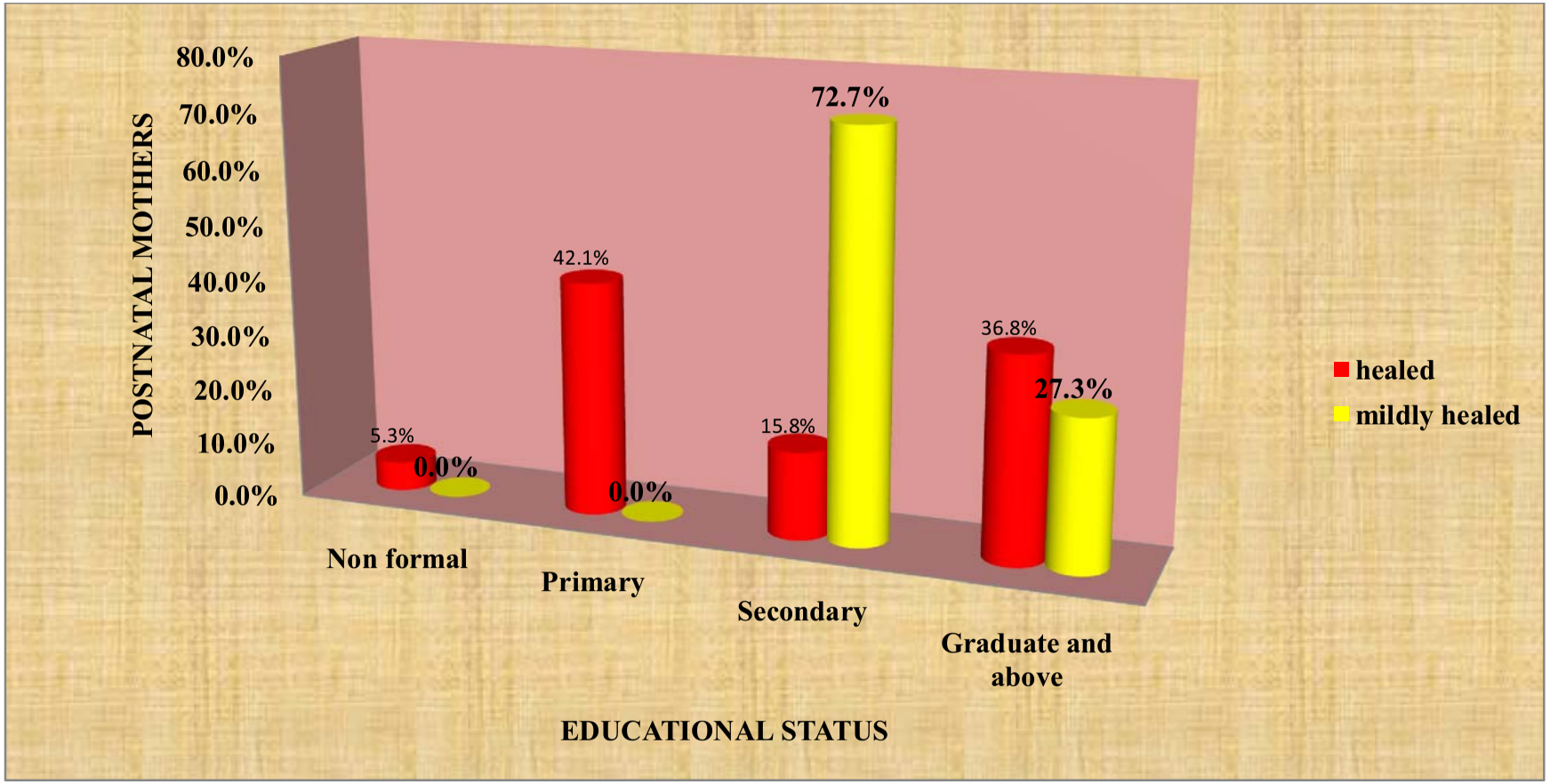


FIGURE 4.17: ASSOCIATION BETWEEN LEVELS OF WOUND HEALING AND PARITY

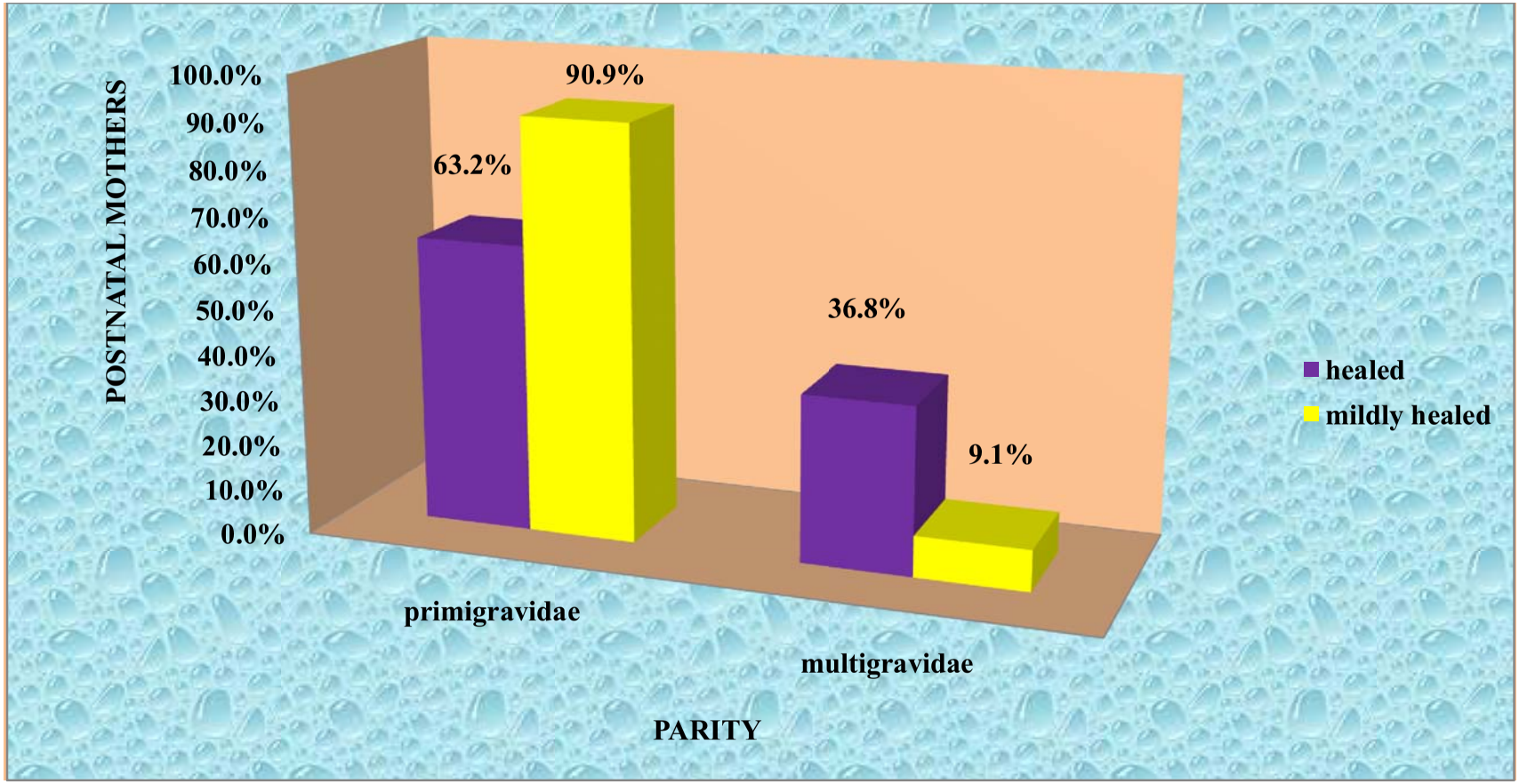
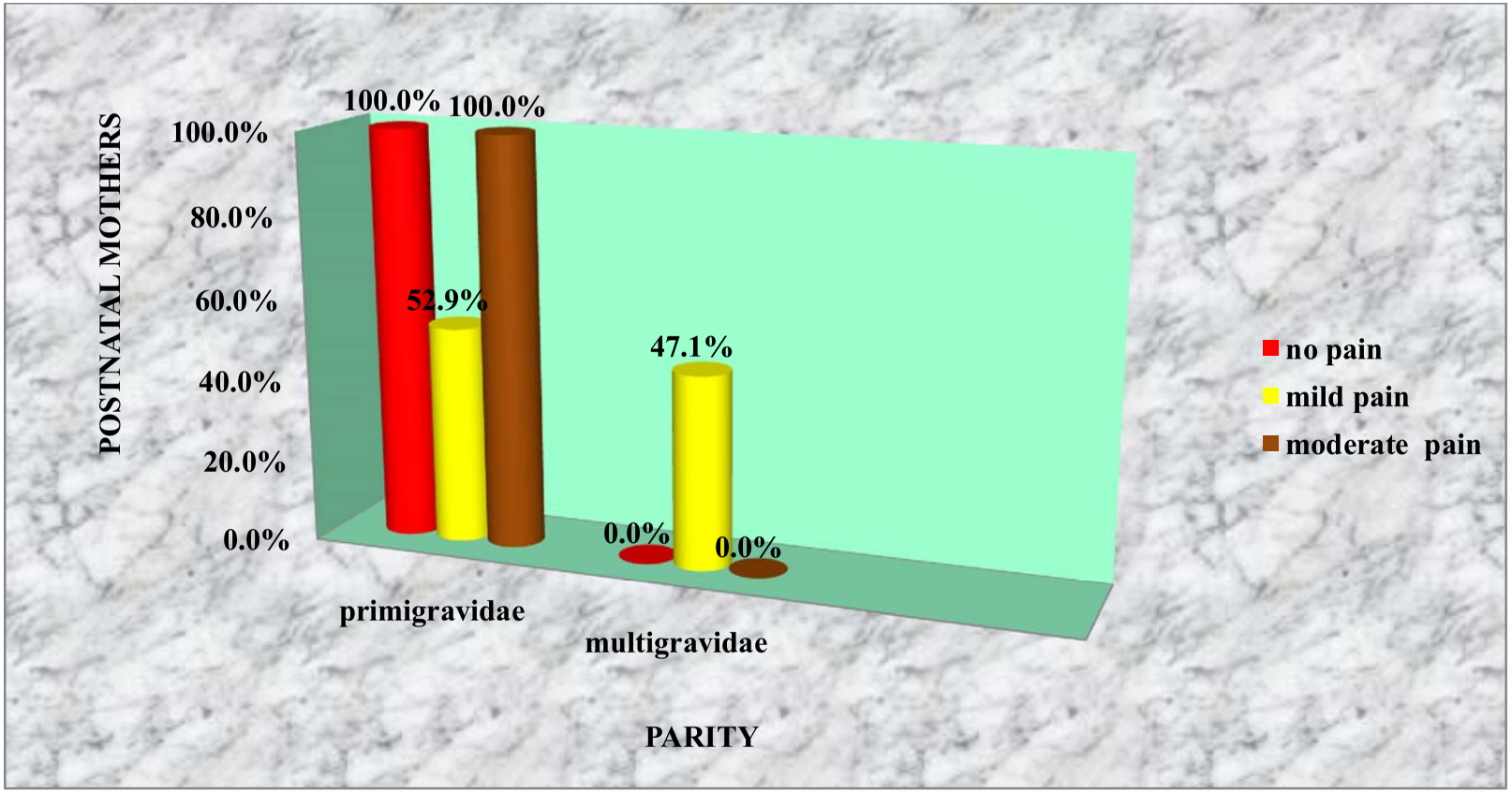


FIGURE 4.18: ASSOCIATION BETWEEN LEVELS OF PAIN PERCEPTION AND PARITY



SUMMARY

OF THE

RESULTS

CHAPTER-V

SUMMARY OF THE REULTS

5.1 Demographic variables findings:

- With regard to **age**, majority of the postnatal mothers (80%) in experimental group and (60%) in the control group were in the age group between 21-25 yrs.
- With regard to **religion**, majority of the postnatal mothers (80%) in experimental group and (86.7%) in control group were Hindus
- With regard to **educational qualification,** majority of the postnatal mothers (36.7%) in experimental group studied up to secondary school level and (60%) in the control group studied up to primary school level.
- With regard to **occupation**, majority of the postnatal mothers (83.3%) in experimental group and (93.3%) in control group were home makers.
- With regard to **residence**, majority of the postnatal mothers (86.7%) in experimental group and (90%) in control group were residing at urban area
- With regard to **family type**, majority of the postnatal mothers (53.3%) in experimental group and (50%) in control were living in joint family
- With regard to **family monthly income status**, majority of the postnatal mothers (36.7%) in experimental group and (36.7%) in control group were earning more than Rs.10000 per month.

5.2 Obstetric variables findings:

- With regard to **parity**, majority of the postnatal mothers (73.3%) in experimental group and (53.3%) in the control group were primigravidae.
- With regard to **mode of delivery**, majority of the postnatal mothers (93.3%) in experimental group and (96.7%) in the control group underwent labour natural.

- With regard to **duration of labour**, majority of the postnatal mothers (56.7%) in experimental group and (46.7%) in the control group labour duration was up to 8-16 hours
- With regard to **number of perineal pads,** majority of the postnatal mothers (66.7%) in experimental group and (70%) in control group used 3-4 pads.
- With regard to **awareness on episiotomy,** majority of the postnatal mothers (58.6%) in experimental group and (73.3%) in control group were aware of episiotomy.

5.3 Pre assessment level of wound healing and pain perception findings:

- In pre assessment level of wound healing showed that there was not much difference in wound healing between experimental group and control group. In experimental group, 6.7% of the postnatal mothers were having moderate wound healing, 93.3% were having mild wound healing. In control group, 16.7% of the postnatal mothers were having moderate wound healing, 83.3% were having mild wound healing.
- In pre assessment level of pain perception showed that there was not much difference in pain perception between experimental and control group. In experiment group, 3.3% of the postnatal mothers were having moderate pain, 96.7% were having severe pain. In control group, 6.7% of the postnatal mothers were having moderate pain, 90% were having severe pain and 3.3% were having excruciating pain**.**

5.4 Post assessment level of wound healing and pain perception findings:

- In post assessment level of wound healing in experimental group, 63.3% of the postnatal mothers wound were healed, and 36.7% were having mild wound healing. In control group, 100% of the postnatal mothers were having mild wound healing.

- In post assessment level of pain perception in experiment group, 56.7% of the postnatal mothers were having mild pain, 40% were having moderate pain and 3.3% were having no pain. In control group, 73.3% of the postnatal mothers were having moderate pain, 26.7% were having severe pain.

5.5 Comparison of pre assessment and post assessment level of healing of episiotomy wound and pain perception findings:

- In pre assessment, experiment group postnatal mothers were having 3.93wound healing score and control group postnatal mothers were having 4.80 wound healing score, so the difference was 0.867, this difference was small and it was not statistically significant difference.
- In pre assessment, experiment group postnatal mothers were having 7.87 pain score and control group postnatal mothers were having .8.07 pain score, so the difference was 0.200, this difference was small and it was not statistically significant difference.
- In post assessment, experiment group postnatal mothers were having 0.37 wound healing score and control group were having 2.77 wound healing score, so the difference was 1.900, this difference was large and it was statistically significant difference.
- In post assessment, experiment group postnatal mothers were having 2.10 pain score and control group were having 5.80 pain score, so the difference was 3.70, this difference was large and it was statistically significant difference

5.6 Effectiveness of fresh aloe vera gel on healing of episiotomy wound and pain perception findings:

- Regarding wound healing, in experimental group 35.7% had enhanced wound healing than in control group and regarding pain, in experimental group 57.6% had pain reduction than in control group.

5.7 Association between post assessment levels of episiotomy wound healing in selected demographic variables and obstetrical variables of postnatal mothers (experimental group)

- ❖ In association between post assessment levels of episiotomy wound healing in demographic variable postnatal mothers with secondary educational status and primigravidae mothers had increased wound healing.

5.8 Association between post assessment levels of pain perception in selected obstetrical variables of postnatal mothers (experimental group)

- ❖ In association between post assessment levels of pain perception in selected obstetrical variables primigravidae mothers had reduced pain perception.

DISCUSSION

CHAPTER-VI

DISCUSSION

This chapter deals with the discussion of the results of the data analyzed based on the objectives of the study and the hypothesis. The purpose of the study was to assess the effectiveness of fresh aloe vera gel application on pain relief and healing of episiotomy wound among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Chennai.

Findings based on the objectives:

1. ***The first objective was to assess the episiotomy wound score and pain perception before and after aloe vera gel application among postnatal mothers in the experimental and control groups.***

In this study, the pretest level of wound healing that there was not much difference in wound healing between experimental group and control group. In experimental group, 6.7% of the mothers were having moderate wound healing, 93.3% were having mild wound healing. In control group, 16.7% of the mothers were having moderate wound healing, 83.3%of the mothers were having mild wound healing.

In this study, the pretest level of pain score showed that there was not much difference in pain score between experimental and control group. In experiment group, 3.3% of the mothers were having moderate pain, 96.7% were having severe pain. In control group, 6.7% of the mothers were having moderate pain, 90% were having severe pain and 3.3% were having excruciating pain.

In this study, the post test level of wound healing in experimental group, 63.3% of the mothers wound were healed and 36.7% were having

mild wound healing. In control group, 100% of the mothers were having mild wound healing.

In this study, the post test level of pain score in experiment group, 56.7% of the mothers were having mild pain, 40% were having moderate pain and 3.3% were having no pain. In control group, 73.3% of the mothers were having moderate pain, 26.7% were having severe pain.

2. ***The second objective was to compare the effectiveness aloe vera gel on episiotomy wound healing and pain perception among postnatal mothers in the experimental and control groups.***

In pre assessment, experiment group mothers were having 3.93 wound healing score and control group were having 4.8 wound healing score, so the difference was 0.87, this difference was small and it was not statistically significant difference.

In pre assessment, experiment group mothers were having 7.86 pain score and control group were having 8.06 pain score, so the difference was 0.2, this difference was small and it was not statistically significant difference.

In post assessment, experiment group mothers were having 0.36 wound healing score and control group were having 2.26 wound healing score, so the difference was 1.9, this difference was large and it was statistically significant difference.

This result was supported by a study conducted by Demetria Clark regarding herbs for postpartum perineum care found that episiotomies and tears during childbirth can leave behind sore areas and dyspareunia. In the US, 35 out of every 100 women who gave birth had an episiotomy. It had been shown that aloe vera increased collagen content and degree of collagen cross-linkage within the wound. Studies showed that collagen increased 93% with topical aloe vera treatment and 67% with oral treatment, compared to controls[46].

The study results showed that application of aloe vera gel had enhanced wound healing among postnatal mothers with episiotomy. There was a highly significant improvement in wound healing in experimental group at the level of P=0.001* than in control group. **Thus there was a significant difference in episiotomy wound healing among postnatal mothers in the experimental group than in the control group. Hence the stated hypothesis H_1 was accepted.**

In post assessment, experiment group mothers were having 2.1 pain score and control group were having 5.8 pain score, so the difference was 3.7, this difference was large and it was statistically significant difference.

This result was supported by a study conducted by Ana Carolina in Brazil to characterize and measure perineal pain in puerperal primiparous undergoing episiotomy, 40 puerperal primiparous who underwent normal childbirth with episiotomy was selected. Pain was measured with the Brazilian version of the McGill questionnaire. The researcher found that participants had a mean pain level of 4.2; the intensity of perineal pain was noted to be moderate[38].

The study results showed that application of aloe vera gel had reduced pain perception among postnatal mothers with episiotomy. There was a highly significant reduction in pain perception in experimental group at the level of P=0.001* than in control group. **Thus there was a significant difference in episiotomy pain perception among postnatal mothers in the experimental group than in the control group. Hence the stated hypothesis H_2 was accepted.**

The computed‘t’ value of wound healing (20.888) and pain (27.109) is greater than table value 2.05 ($t_{29}=2.05$, $p<0.05$). Hence aloe vera gel is effective in episiotomy wound healing and pain.

3. ***The third objective was to determine the effectiveness of aloe vera gel on episiotomy wound healing and pain perception among postnatal mothers in the experimental and control groups***

In this study, on an average, experimental group 35.7% of mothers had enhanced wound healing whereas in control group 25.4% of mothers had enhanced wound healing. Differences between pretest and posttest score was analyzed using proportion with 95% CI and mean difference with 95% CI. **This difference showed the effectiveness of aloe vera gel.**

In this study, on an average, experimental group 57.6% of mothers had reduced pain score whereas in control group 22.6% of mothers had reduced pain score. Differences between pre test and post test score was analyzed using proportion with 95% CI and mean difference with 95% CI. **This difference showed the effectiveness of aloe vera gel.**

This result was supported by a study conducted by Seyyed abbas hashemi in Iran, the use of topical application of aloe vera gel on wounds, 49 patients were randomly assigned to receive aloe or placebo. Patients in the topical group had significantly less post operative pain at hours 12, 24, 48 hrs post surgery ($p<0.001$).Wound healing at the end of second post operative week was significantly greater in aloe vera group compared with placebo group ($p<0.001$).Patients needed fewer analgesics post operatively ($p<0.001$).The study concluded that application of aloe vera cream on the surgical site is effective in reducing postoperative pain[40].

This result was also supported by a study conducted by Fereshteh Jahdie on determining the impact of Aloe vera and Calendula on episiotomy healing in primiparous women. This clinical trial involves 111 qualified primiparous women admitted in Lolagar hospital. The women in experimental group used Aloe vera and Calendula Ointment every 8 hours and the control group used hospital routine on episiotomy for 5 days. According to the results, using Aloe vera and Calendula

ointment considerably increased the speed of episiotomy wound healing so it can be used for quickening the episiotomy healing[43].

4. ***The fourth objective was to find out the association between the level of episiotomy wound healing and pain perception in selected demographic and obstetrical variables of postnatal mothers in the experimental and control groups***

In this study, association between level of wound healing and their demographic variables showed mothers with good educational status had increased wound healing.

In this study, the association between level of wound healing and obstetric variables showed primigravidae mothers had increased wound healing.

Thus there was a significant association between the levels of episiotomy wound healing with the selected demographic variables and obstetrical variables among experimental group. **Hence the stated hypothesis H_3 was accepted.**

In this study, the association between level of pain and obstetric variables showed primigravidae mothers had reduced pain perception.

This result was supported by a study conducted by P.Manjula (2012) in a descriptive study which was conducted to examine factors influencing episiotomy wound healing in Government Taluk Hospital, Kundapura. The study reveals that episiotomy wound healing is influenced by parity, frequency of self perineal care, length of episiotomy wound and no of episiotomy sutures present[28].

Thus there was a significant association between the levels of episiotomy pain perception with the selected obstetrical variables among experimental group. Hence the stated hypothesis H_4 was accepted.

CONCLUSION AND RECOMMENDATIONS

CHAPTER-VII

CONCLUSION AND RECOMMENDATIONS

This study was to assess the effectiveness of fresh aloe vera gel application on pain relief and healing of episiotomy wound among post natal mothers admitted at IOG, Chennai.

Extensive literature review and studies was done from primary and secondary sources that formed the basis of problem, development of tool, drawing the conceptual framework and the methodology, and thus provided evidence based guidance for the study.

The conceptual framework developed for the study was based on the Weidenbach's Helping Art Theory and it provided a comprehensive framework for achieving the objectives of the study. The researcher adopted the true experimental research design. Simple random sampling technique was used to select 60 samples based on the inclusion criteria. The tool consisted of demographic profile, REEDA scale and universal pain assessment scale. It was validated by medical and nursing experts. The study was conducted at postnatal ward, IOG, Chennai.

The data collection was done for 4 weeks in the postnatal ward, IOG, Chennai. Formal Permission was obtained from the Head of the Department.

Descriptive (percentage distribution) and inferential statistics (chi square test, paired't' test and unpaired't' test) were used to analyze the data and for assessment of hypothesis. The data were then interpreted and discussed based on the objectives of the study, hypotheses and relevant studies from literature reviewed.

7.1 Implications of the study

The concept of health has changed from time to time. Traditionally, health had disease as its central focus, which has now changed into complex multi-dimensional models centering on a positive holistic approach towards the phenomenon of health with emphasis on health promotion. The investigator had drawn the following implications from the studies, which are of vital concern in the field of nursing practice, nursing administration, nursing education and nursing research.

Nursing practice

- Fresh Aloe vera gel is cost effective, easily prepared in home, economical, safe and easy to practice to treat episiotomy wound. Since this is natural treatment and have no side effects it can be practiced in all clinical setting in order to relieve pain caused by episiotomy wound and improve wound healing.
- Hence these studies can be used for evidenced based practice and this practice in turn enhances the autonomous role of nursing intervention.

Nursing administration

- The nurse administrator can organize staff development programmes in episiotomy care.
- The nurse administrator can organize conferences and in-service education programmes for complementary therapies in episiotomy care.

Nursing education

- The nurse educator can conduct workshop, seminars and conferences on non-invasive complementary therapies that help to update their knowledge to provide effective care.

- ❖ Encourage the students to learn about the assessment of episiotomy wound and the remedial measures to prevent pain and improve wound healing

Nursing research

- ❖ The use of fresh aloe vera gel in treating episiotomy wound is an unexplored area as far as India is concerned. Emphasis should be laid on research in this area to assess and compare the effectiveness of these applications in various other wound related complications.
- ❖ The present study is just an initial attempt and it will encourage and motivate health personnel to conduct more research studies in this area.
- ❖ Also the study design and methodology used in this study can be used for the literature review for further studies.

7.2 Limitations

1) The study can be conducted in multi centered hospital with large samples
2) This study can be conducted for longer duration for its effectiveness.

7.3 Recommendations

The study recommends the following for further research

1) The similar study can be replicated with larger samples in different setting to strengthen the findings.
2) This study can be implemented in all settings like hospitals and community.
3) A study can be conducted for assessing the effectiveness of aloe vera gel commercially available on wound healing on episiotomy wound.
4) A comparative study can be conducted to assess the effectiveness of fresh aloe vera gel individually and in combination with other complimentary therapies

5) An exploratory can be conducted to find out the effect of aloe vera for wound healing.
6) A study can be conducted for assessing the effectiveness of fresh aloe vera gel on wound healing after caesarean section.
7) A study to assess the effectiveness of structured teaching programme regarding fresh aloe vera gel application over episiotomy wound for staff nurses in postnatal ward

The present study assessed the effectiveness of fresh aloe vera gel among postnatal mothers with episiotomy. The results revealed that fresh aloe vera gel had a significant effect in improving the wound healing and reducing pain in episiotomy in experimental group than hospital routine care in control group. More over it is cost effective, easy to apply and not harmful.

Women health is much important to have family integrity.

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APPENDICES

APPENDIX-A: CERTIFICATE OF APPROVAL FROM INSTITUTIONAL ETHICS COMMITTEE

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI-3

EC Reg No.ECR/270/Inst./TN/2013
Telephone No. 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
Mrs. S.JAYASHREE
M.Sc., (Nursing)
College of Nursing
Madras Medical College,
Chennai – 600 003.

Dear Mrs. S.JAYASHREE,

The Institutional Ethics Committee has considered your request and approved your study titled **"A STUDY TO ASSESS THE EFFECTIVENESS OF FRESH ALOE VERA GEL APPLICATION ON PAIN RELIEF AND HEALING OF EPISIOTOMY WOUND AMONG POSTNATAL MOTHERS ADMITTED AT GOVERNMENT INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND HOSPITAL FOR WOMEN AND CHILDREN, EGMORE". No.09102014.**

The following members of Ethics Committee were present in the meeting held on 21.10.2014 conducted at Madras Medical College, Chennai-3.

1. Dr.C.Rajendran, M.D., : Chairperson
2. Dr.R.Vimala, M.D., Dean, MMC, Ch-3 : Deputy Chairperson
3. Prof.B.Kalaiselvi, M.D., Vice-Principal, MMC, Ch-3 : Member Secretary
4. Prof.R.Nandhini, M.D., Inst.of Pharmacology, MMC : Member
5. Prof.K.Ramadevi, Director i/c, Inst.of Biochemistry, MMC : Member
6. Prof.Saraswathy, M.D., Director, Pathology, MMC, Ch-3 : Member
7. Prof.S.G.Sivachidambaram, M.D., Director i/c, Inst.of Internal Medicine, MMC : Member
8. Dr.Balakrishnan, M.S., Director, Inst.of Surgery, MMC : Member
9. Thiru S.Rameshkumar, Administrative Officer : Lay Person
10. Thiru S.Govindasamy, B.A., B.L., : Lawyer
11. Tmt.Arnold Saulina, M.A., MSW., : Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary, Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

APPENDIX-B: CERTIFICATE OF CONTENT VALIDITY

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **S.Jayashree**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title "**A STUDY TO ASSESS THE EFFECTIVENESS OF FRESH ALOE VERA GEL APPLICATION ON PAIN RELIEF AND HEALING OF EPISIOTOMY WOUND AMONG POSTNATAL MOTHERS ADMITTED AT INSTITUTE OF OBSTETRICS AND GYNECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI-8"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

Name : KANAGAVALLI.P

Designation : Reader

College : Madha College of Nursing

Date : 16/7/15

Place : Chennai

MADHA COLLEGE OF NURSING
16 JUL 2015
CHENNAI - 600 069

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **S.Jayashree**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title **"A STUDY TO ASSESS THE EFFECTIVENESS OF FRESH ALOE VERA GEL APPLICATION ON PAIN RELIEF AND HEALING OF EPISIOTOMY WOUND AMONG POSTNATAL MOTHERS ADMITTED AT INSTITUTE OF OBSTETRICS AND GYNECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI-8"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore, Chennai-8

SIGNATURE WITH SEAL

Name : DR.D.SHANTHI SIVAKUMAR

Designation : ASST. PROFESSOR

College :

Date :

Place :

APPENDIX- C: LETTER SEEKING PERMISSION FOR CONDUCTING STUDY

Ref.No.4673/P&D/2015

IOG and Government Hospital for Women and Children, Egmore, Chennai 8, Dated 1.7.2015

Sub : Training - M.Sc., (N) II year., Obstetrics and Gynaecological Nursing – Clinical Practice, Dissertation, practical examination and Lecture training in the IOG and Government Hospital for Women and Children, Egmore, Chennai 8 for the period from 6.7.2015 to 5.8.2015-Permission - orders issued

Ref : Letter dated 24.6.2015 of the Head of Department, O&G Nursing, College of Nursing, Madras Medical College, Chennai 3.

+++++

As per the letter reference cited, the following M.Sc (N) II years students of Madras Medical College, Chennai 3 are permitted to undergo the clinical experience, lecture classes, University practical examination and also to carryout dissertation work in IOG and Government Hospital for Women and Children, Egmore, Chennai 8 for the period from 6.7.2015 to 5.8.2015 under the guidance of the Assistant Professor of O&G mentioned against their names.

Sl.No	Name of the Students	Name of the Assistant Professor of O&G of this Hospital
1	Mrs. A.Bhuvaneswari	Dr. M.Geetha
2.	Mrs.A.Josephine Carmel Rani	Dr.Nalina
3.	Mrs. Kalavathy Padmanaban	Dr.P.Priyadarshini
4.	Mrs.Kaliyaperumal Ananthi	Dr.K.priyadarshini,
5.	Mrs.Naidu Merita Mohanraj	Dr.M. Thangamani
6..	Mrs. Palaniammal	Dr.Sumathy
7.	Mrs. Princy Fernando	Dr.K. Abiramavalli
8.	Mrs..S.Jayashree	Dr.D. Shanthi Sivakumar

Director and Superintendent

Director and Superintendent
Institute of Obstetrics and Gynaecology and Govt. Hospital for Women and Children, EGMORE, MADRAS-8.

To

The Individuals concerned

Copy to

Dr.M Geetha, Assistant Professor of O&G , IOG and Government Hospital for Women and Children, Egmore, Chennai 8

Dr.Nalina, Assistant Professor of O&G o, IOG and Government
Hospital for Women and Children, Egmore, Chennai 8

Dr.P.Priyadarshini ,

Dr.K.priyadarshini, "
Dr.M. Thangamani "
Dr.Sumathy "
Dr.K. Abiramavalli "
Dr.D. Shanthi Sivakumar "

Copy to :

The Principal, College of Nursing, Madras Medical College, Chennai 3.

The Head of Department, O&G Nursing, College of Nursing, Madras Medical College, Chennai 3.

The Resident Medical Officer, IOG and Government
Hospital for Women and Children, Egmore, Chennai 8

The Nursing Superintendent of this Hospital

APPENDIX- D: TOOLS- QUESTIONNAIRE, REEDA SCALE AND UNIVERSAL PAIN ASSESSMENT SCALE

SECTION-1: DEMOGRAPHIC PROFORMA

1. The age of the mother in years:

- **a) 21-25 ( )**
- **b) 26-30 ( )**
- **c) Above 30 ( )**

2. Religion:

- **a) Hindu ( )**
- **b) Christian ( )**
- **c) Muslim ( )**

3. Educational status:

- **a) Non formal ( )**
- **b) Primary ( )**
- **c) Secondary ( )**
- **d) Graduate and above ( )**

4. Occupation

- **a) Housewife ( )**
- **b) Working women ( )**

5. Residential state:

- **a) Rural ( )**
- **b) Urban ( )**
- **c) Suburban ( )**

6. Type of family:

- **a) Nuclear family ( )**
- **b) Joint family ( )**

7. Income of the family:

a) < Rs.5000 ( )
b) Rs.5000-Rs.10000 ( )
c) >Rs.10000 ( )

SECTION-2: OBSTETRICAL VARIABLES

1. **Parity:**

a) Primigravidae ( )

b) Multigravidae ( )

2. **Mode of delivery**

a) Labour natural ( )

b) Forceps ( )

c) Ventouse ( )

3. **Duration of labour:**

a) Less than 8 hours ( )

b) 8-16 hours ( )

c) Over 16 hours ( )

4. Type of incision:

a) Medio lateral ( )

b) Median ( )

c) Lateral ( )

d) J shaped ( )

5. Whether local anesthesia given?

a) Yes ( )

b) No ( )

6. Type of suture material used:

a) Chromic ( )

b) Silk ( )

c) Vicryl ( )

7. Birth weight of the baby:

a) 1.5 -2 kg ( )

b) 2kg-3 kg ( )

c) Above 3 kg ( )

8. Number of perineal pads used per day:

a) 3-4 pads ( )

b) 5-6 pads ( )

c) > 6 pads ( )

9. Are you aware of episiotomy before delivery:

a) Yes ( )

b) No ( )

10. Pain perception by the mother

a) Good ( )

b) Better ( )

c) Bad ( )

11. Are you maintaining good personal hygiene:

a) Yes ( )

b) No ( )

12. Do you know any home remedies for wound healing ?

a) Yes ( )

b) No ( )

12. a) If yes mention source ……?

13. Do you know whether aloe vera application over episiotomy wound will relieve pain and promote wound healing?

a) Yes ( )

b) No ( )

13. a) If yes, mention source …….?

SECTION- 3: THE REEDA (REDNESS, EDEMA, ECCHYMOSIS, DISCHARGE, APPROXIMATION) SCALE FOR ASSESSING EPISIOTOMY WOUND HEALING (DAVIDSON 1974)

PARMETER	FINDINGS	SCORE	PRE TEST	POST TEST
REDNESS	None Within 0-2.5mm of the incision bilaterally Within 5mm of the incision bilaterally Beyond 0.5mm of the suture incision bilaterally	0 1 2 3		
EDEMA	None Perineal <1 cm from the incision Perineal or vulval 1-2 cm from incision Perineal or vulval >2 cm from incision	0 1 2 3		
ECHYMOSIS	None Within 0.25 cm bilaterally or 0.5 cm unilaterally Between 0.25 cm to 1 cm bilaterally or 0.5 cm-2.0 cm unilaterally Above 1 cm bilaterally or > 2 cm unilaterally	0 1 2 3		
DISCHARGE	None Serum Serosanguinous Bloody, purulent	0 1 2 3		
APPROXIMATION	Closed Skin separation Skin and subcutaneous fat separate Skin, subcutaneous fat and fascia separate	0 1 2 3		
	REEDA SCORE			

REEDA SCORE: The resulting score were ranges as follows:

0 - Healed

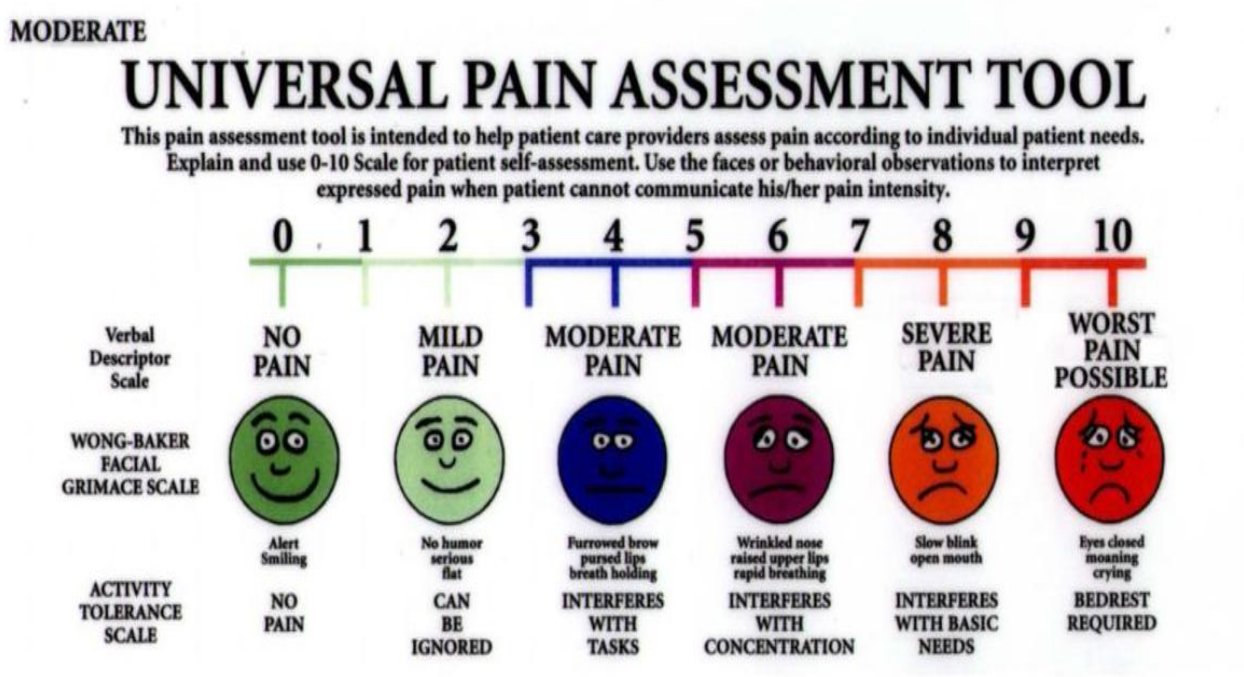
1-5 - Moderately Healed

6-10 - Mildly Healed

10-15 - Not Healed

Total score -15

SECTION-4: UNIVERSAL PAIN ASSESSMENT TOOL



SCORING:

0 - No pain.
1-2 - Mild pain.
3-6 - Moderate pain.
7-9 - Severe pain.
10 - Worst possible pain

பிரிவு-1

சமுதாயகாரணிகள்

மாதிரி எண் _____

1.வயது (ஆண்டுகளில்)

அ) 21-25 ( )
ஆ) 26-30 ( )
இ) 30 வயதுக்கு மேல் ( )

2. மதம்

அ) இந்து ( )
ஆ) கிறித்தவர் ( )
இ) முஸ்லிம் ( )

3.கல்வி தகுதி

அ) அனுபவ கல்வி ( )
ஆ) ஆரம்ப கல்வி ( )
இ) மேல்நிலை கல்வி ( )
ஈ) பட்டதாரி ( )

4. தொழில் விவரம்

அ) இல்லத்தரசி ( )
ஆ) வேலைக்குச் செல்பவர் ( )

5. இருப்பிடம்

அ) நகரம் ( )
ஆ) கிராமம் ( )

6.குடும்ப வகை

அ) தனிக் குடும்பம் ( )
ஆ) கூட்டுக் குடும்பம் ( )

7.மாத வருமானம்

அ) ரூ 5000/- கீழ் ( )
ஆ) ரூ 5001லிருந்து-10000/- வரை ( )
இ) ரூ 10000 க்கு மேல் ( )

பிரிவு-2

மகப்பேறு பற்றின விவரம்:

1. உங்களுக்கு இது ஏத்தனையாவது பிரசவம்?

அ)முதல் முறை ( )
ஆ)இரண்டு முறைக்கு மேல் ( )

2. எந்த முறையில் பிரசவிதீர்கள்?

அ) சுய பிரசவம் ( )
ஆ)ஆயுத முறை ( )
இ) காற்று அழுத்த முறை ( )

3. பிரசவத்தின் கால அவகாசம்?

அ) 8 மணி நேரத்திற்குள் ( )
ஆ) 8-16 மணி நேரத்திற்குள் ( )
இ) 16 மணி நேரத்திற்கு மேல் ( )

4. பிறப்பு உறுப்பில் எந்த கோணாத்தில் அறுவை செய்யப்பட்டது?

அ)நடுப்பகுதியில் இருந்து பக்கவட்டை நோக்கி ( )
ஆ)பக்கவட்டில் ( )
இ)நடுப்பகுதியில் ( )
ஈ) ஜ வடிவு ( )

5. ஓரிட உணர்ச்சி நீக்கி மயக்க மருந்து உங்களுக்கு கொடுக்கப்பட்டதா?

அ) ஆம் ( )
ஆ) இல்லை ( )

6. எந்தவகையான தையல் பொருள் பயன்படுத்தப்பட்டது ?

அ)கிரொமிக் ( )

ஆ)சில்க் ( )

இ)வைக்ரல் ( )

7. பிறந்த குழந்தையின் எடை

அ) 1.5-2 கிலோ கிராம் ( )

ஆ) 2-3 கிலோ கிராம் ( )

இ)3 கிலோ கிராமுக்கு மேல் ( )

8) நீங்கள் ஒரு நாளைக்கு எத்தனை நாப்கின்ங்கள் உபயோகிக்கிறீர்கள்?

அ)3-4 நாப்கின்ங்கள் ( )

ஆ) 5-6 நாப்கின்ங்கள் ( )

இ) 6 க்கு அதிகமாக ( )

9. பிரவசவத்தின் போது பிறப்பு உறுப்பில் அறுவை செய்வது பற்றி அறிந்திருக்கிறீர்களா?

அ) ஆம் ( )

ஆ) இல்லை ( )

10. பொதுவாக நீங்கள் வலி தாங்கி கொள்ளும் நிலை?

அ)நன்று ( )

ஆ)ஓரளவுக்கு ( )

இ) தாங்க முடியாது ( )

11. தன் சுத்தம் மேற்கொள்பவரா நீங்கள்?

அ) ஆம் ( )

ஆ) இல்லை ( )

12.காயத்தில் இரணம் மற்றும் வலி குணமடைய மாற்று மருந்து பற்றி அறிந்திருக்கிறீர்களா?

அ) ஆம் ( )

ஆ) இல்லை ( )

12. (அ) ஆம் ஏனில் எங்கிருந்து அறியப்பட்டது என குறிப்பிடவும்

.....

13.காயத்தின் மேல் கற்றாழை ஜெல் உபயோகிப்பதன் மூலம் இரணம் மற்றும் வலி குணமடையும் என்பது பற்றி அறிந்திருக்கிறீர்களா?

அ) ஆம் ( )

ஆ) இல்லை ( )

13. அ) ஆம் ஏனில் எங்கிருந்து அறியப்பட்டது என குறிப்பிடவும்

.....

APPENDIX-E: FRESH ALOE VERA GEL APPLICATION PROTOCOL:

PERINEAL CARE:

Definition : cleansing the mother's external genitalia and using an antiseptic solution.

Purpose:

- ❖ To cleanse the perineal skin.
- ❖ To reduce the chances of infection of episiotomy wound.
- ❖ To reduce body odor and improve self image.
- ❖ To promote the feeling of well being.

Articles:

A clean tray containing:

- Normal saline in a bottle.
- Sterile sanitary pad.
- Gloves.
- Kidney tray.
- fresh Aloe vera gel
- Ice cream stick with measurement on it.
- Dropper

Sterile pack containing:

- Artery forceps.
- Dissecting forceps.
- Gallipot.
- Cotton balls.
- Gauze pieces.

Preparation of fresh aloe vera gel:

Preparation at home:

- Aloe vera leaf was cut from plant; sterile blade was used to cut its sides. Another sterile blade was used to slice the upper and lower green skin of the leaf.
- The clear gel is removed and cut into pieces of 3cm*2cm*1cm (length *breadth*width) and placed in the sterile guaze piece and packed.

Procedure:

- Explain the procedure to the mother, the purpose and how she has to co-operate.
- Assemble articles at the bedside or in the treatment room.
- Ask the mother to empty her bowel and bladder and wash the perineal area with plain water before coming for perineal care.
- Provide privacy.
- Assist the mother to assume dorsal recumbent position with knees bent and drape the area using diamond draping method.
- Open sterile pack and pour normal saline in the gallipot in the tray.
- Scrub hands and dry with towel.
- Put on gloves.
- Take cotton swabs with artery forceps, dip in normal saline and squeeze excess solution with dissecting forceps into kidney tray.
- Stroke areas:
- Separate vestibule with non dominant hand and clean vestibule starting from clitoris to fourchette.
- Inside of labia minora downward, farther side and then nearer side.
- Labia majora downward, farther side and then nearer side.
- Clean episiotomy wound from centre outwards and outside of episiotomy both sides.
- Clean from fourchette to anus.

- Dry episiotomy with gauze pieces.
- Use ice cream stick to assess REEDA scale on day one of intervention, before application of aloe vera gel and on second day after application.
- Apply prepared fresh aloe vera gel over episiotomy wound for half an hour twice daily for three days
- Place sanitary pad from front to back.
- Discard gloves.
- Wash hands.
- After care:
- Make the mother comfortable.
- Replace articles.
- Record the findings of episiotomy wound that has been assessed with scale and universal pain assessment tool.

APPENDIX- F: INFORMED CONSENT

INFORMATION TO PARTICIPANTS

Title : "A study to assess the effectiveness of fresh aloe vera gel application in promotion of pain relief and healing of episiotomy wound among postnatal mothers in Institute of Obstetrics and Gynaecology Hospital-Egmore, Chennai-8"

Name of the Participant :

Date :

Age/sex :

Investigator : Mrs.S.Jayashree

Name of the institution : College of nursing, Madras medical college, Chennai

You are invited to take part in this research / study / procedures. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

You are being asked to co-operate in this study being conducted in Institute of Obstetrics and Gynaecology Hospital-Egmore, Chennai-8"

What is the Purpose of the Research (explain briefly)

This research is conducted to evaluate the effectiveness of fresh aloe vera gel application in promotion of pain relief and healing of episiotomy wound among postnatal mothers in Institute of Obstetrics and Gynaecology Hospital-Egmore, Chennai-8".
We have obtained permission from the Institutional Ethics Committee.

The study design:

True experimental study

Study Procedures:

- The study will be conducted after obtaining permission from the Institutional Ethics Committee.

- Post natal mothers who have undergone episiotomy incision admitted in post natal ward of in Institute of Obstetrics and Gynaecology Hospital Egmore will be explained about the study purpose and procedure.
- Informed consent will be obtained from those who are willing to participate in the study, those who fulfill the inclusion criteria will be enrolled in the study.
- Post natal mothers who have undergone episiotomy will be enrolled and divided into two groups -experimental and control groups. Each group will have 30 mothers.
- Demographic proforma, episiotomy wound assessment, pain scale assessment will be done on the first day.
- Aloe vera leaf is incised; fresh gel is removed from sap, gel is sliced into pieces of 4cm each and covered in sterile gauze piece. Perineal care is provided and fresh aloe vera gel is applied in episiotomy wound for half an hour twice daily for three days for experimental group.
- Control group will receive routine episiotomy wound care.
- On the fourth day in both experimental and control group pain assessment by Numerical rating scale and episiotomy wound assessment by Davison's REEDA scale will be analyzed

Possible Risks to you

No risks involved.

Possible Benefits to you

After finishing this study, the investigator will provide information that fresh aloe vera gel is effective in promotion of pain relief and wound healing in episiotomy.

Possible benefits to other people

The result of the research may provide benefits to the society in terms of advancement in alternative/complementary therapy for pain reduction and wound healing in benefiting future patients.

Confidentiality of the information obtained from you

You have the right to confidentiality regarding the privacy of your medical information (personal details, results of the physical examination, investigations and medical history). By signing this document, you will be allowing the research team investigators, other personnel, sponsors, any person or agency required by the law like the Drug Controller General of India to view your data, if required. Shed in The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

How will your decision not to participate in the study affect you?

Your decisions not to participate in this research study will not affect your activity of daily living, medical care or your relationship with investigator or the institution. You will be taken care of and you will not lose any benefits to which you are entitled.

Can you decide to stop participating in the study once you start?

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time during course of the study without giving any reasons.

However, it is advisable that you talk to the research team prior to stopping the treatment.

Signature of Investigator

Date:

Signature of Participants

Date:

- My rights and responsibilities have been explained to me by the investigator.
- I agree to cooperate with the investigator
- I have not participated in any research study at any time.
- I am aware of the fact that I can opt out of the study at any time without having to give any reason
- I hereby give permission to the investigators to release the information obtained from me as a result of participation in this study to the regulatory authorities, government agencies and Institutional ethics committee.
- I understand that they are publically presented; my identity will be kept confidential.
- I am aware that I have any question during this study; I should contact the concerned investigator.

Signature of Investigator

Date

Signature of Participants

Date

ஆராய்ச்சி தகவல் தாள்

ஆராய்ச்சித் தலைப்பு : பிறப்புறுப்பை விரிவுபடுத்துவதர்க்காக உள்ளான மகப்பேறு காலத்திற்கு பின் உள்ள தாய்மார்களுக்கு கற்றாழை ஜெல் உபயோகித்தின் மூலம் வலி நிவாரணமும், இரணமும் ஆற செய்தல் பற்றிய ஆய்வு

ஆய்வாளர் பெயர் : செ.ஜெயஸ்ரீ

பங்கேற்பாளர் பெயர் :
தேதி :
வயது/பால் :
ஆராய்ச்சிச் சேர்க்கை எண் :

நான் அரசு தாய் சேய் நல மருத்துவமனையில் மகப்பேறு காலத்திற்கு பின் கவனிப்பு பிரிவுப் பகுதியில் உள்ள உள் நோயளிகளான தாய்மார்களுக்கு திறனாய்வு மேற்கொள்கிறேன்.

பிறப்புறுப்பை விரிவுபடுத்துவதர்க்காக உள்ளான மகப்பேறு காலத்திற்கு பின் உள்ள தாய்மார்களுக்கு கற்றழை ஜெல்லை தொடர்ந்து 3 நாட்களுக்கு அரை மணி நேரம் பிறப்புறுப்பை விரிவுபடுத்திய இடத்தில் உபயோகிக்க போகிறேன்.

இந்த செயல்முறையின் மூலம் பிறப்புறுபை விரிவுபடுத்திய இடத்தில் வலி நிவாரணமும், இரணமும் ஆற வாய்ப்பு அதிகம் உள்ளது. இம்முறையைத் தாய்மார்கள் நன்றாக பயன்படுத்திக் கொள்ளலாம்.

தாய்மார்கள் தங்கள் சொந்த விருப்பத்தின் பேரில் ஆராய்ச்சியில் இணைக்கப்படுவர். விருப்பமில்லையென்றால் எந்நேரமும் விலகிக் கொள்ளலாம். இதனால் ஆராய்ச்சிக்கு எந்தவித பாதிப்பும் ஏற்படாது.

முடிவுகளை அல்லது கருத்துக்களை வெளியிடும் போது தங்களின் பெயரையோ அல்லது அடையாளங்களையோ வெளியிட மாட்டோம் என்பதை தெரிவித்துக் கொள்கிறோம்.

ஆராய்ச்சியாளர் கையொப்பம்

தேதி :

பங்கேற்பாளர் கையொப்பம்

தேதி :

ஆராய்ச்சி ஒப்புதல் படிவம்

ஆராய்ச்சி தலைப்பு :

பெயர் : **தேதி :**

வயது : **உள்நோயாளி எண் :**

பாலினம் : **ஆராய்ச்சி சேர்க்கை எண்:**

இந்த ஆராய்ச்சியில் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக எனக்கு விளக்கப்பட்டது

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்து கொண்டு நான் எனது சம்மதத்தைத் தெரிவிக்கிறேன்

இந்த ஆராய்ச்சியில் பிறரின் நிபந்தனையின்றி சொந்த விருப்பத்தின் பேரில் பங்கு பெறுகின்றேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும்பின் வாங்கலாம் என்பதையும் அதனால் எவ்வித பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.

இந்த ஆராய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும் போது என் அடையளாம் வெளிவராது என்பதை அறிவேன்.

நான் என் சுயநினைவுடனும் மற்றும் முழுமனதுடனும் இந்த ஆய்வில் பங்கு பெற சம்மதிக்கிறேன்.

நான் இந்த ஆராய்ச்சிக்கு என்னுடைய முழு ஒப்புதலை அளிக்கிறேன்.

எனக்கு இந்த ஒப்புதல் கடிதத்தின் நகல் கொடுக்கப்பட்டது.

ஆராய்ச்சியிளார் கையொப்பம்: பங்கேற்பாளர் கையொப்பம்:

தேதி : தேதி :

APPENDIX- G: CODING SHEET

EXPERIMENTAL GROUP																								
	Demographic variables							Obstetric variables													Reeda		Pain	
Sample No	Age	Religion	Education	Occupation	Residence	family	Income	Parity	Delivery	Duration	incision	anesthesia	suture material	Birth wt	Pad use	awareness	Pain	hygiene	Alternatives	Aloe vera	pre test	post test	pretest	post test
1	d	b	d	b	b	a	c	a	a	b	a	a	a	c	a	b	b	a	b	b	3	0	8	3
2	b	a	c	b	a	a	b	b	a	b	a	a	a	b	a	a	c	a	a	b	3	1	7	2
3	b	a	d	b	b	b	b	a	a	b	a	a	a	b	c	b	c	a	a	b	4	1	7	2
4	b	a	d	a	b	b	c	a	a	c	a	a	a	b	b	a	b	a	b	b	4	1	8	4
5	b	a	c	a	b	b	c	a	a	c	a	a	a	b	b	b	b	a	b	b	4	1	9	3
6	b	a	c	a	b	b	b	a	a	b	a	a	a	b	a	b	b	a	b	b	3	0	8	3
7	b	a	d	b	b	a	c	a	a	b	a	a	a	b	a	b	c	a	b	b	3	0	7	3
8	c	b	c	a	b	b	b	a	a	b	a	a	a	b	a	a	b	a	b	b	4	1	8	4
9	b	b	c	a	b	b	a	a	a	b	a	a	a	b	a	b	c	a	b	b	5	1	9	4
10	b	b	b	b	b	b	a	a	a	a	a	a	a	b	b	a	b	a	b	b	3	0	8	3
11	b	a	c	a	a	a	a	a	a	b	a	a	a	b	a	b	b	a	b	b	4	1	7	3
12	b	c	d	a	b	b	b	a	a	a	a	a	a	c	b	a	a	a	b	b	5	0	8	2
13	b	a	c	a	b	b	c	a	a	b	a	a	a	c	a	a	c	a	b	b	6	1	8	3
14	b	a	d	a	b	b	c	a	a	a	a	a	a	c	c	a	a	a	b	b	2	0	9	3
15	b	a	b	a	b	a	a	a	b	a	a	a	a	c	a	a	c	a	b	b	3	0	8	2
16	c	a	c	a	b	b	c	b	a	b	a	a	a	c	a		b	a	b	b	3	0	8	2
17	b	a	d	a	b	a	c	a	a	c	a	a	a	b	b	b	c	a	b	b	4	1	7	2

EXPERIMENTAL GROUP																								
	Demographic variables							Obstetric variables														Reeda		Pain	
Sample No	Age	Religion	Education	Occupation	Residence	family	Income	Parity	Delivery	Duration	incision	anesthesia	suture material	Birth wt	Pad use	awareness	Pain	hygiene	Alternatives	Aloe vera		pre test	post test	pretest	post test
18	b	a	c	a	b	a	b	a	c	b	a	a	a	b	a	a	b	a	b	b		4	1	8	3
19	b	a	b	a	a	b	b	a	a	c	a	a	a	c	a	b	a	a	b	b		4	0	9	2
20	c	a	d	a	b	a	c	a	a	b	a	a	a	b	b	a	b	a	b	b		3	0	7	1
21	b	a	b	a	b	a	a	a	a	b	a	a	a	c	a	a	c	a	b	b		5	0	8	1
22	b	a	c	a	b	b	b	a	a	b	a	a	a	c	a	b	a	a	b	b		6	1	7	0
23	c	a	b	a	b	b	a	b	a	a	a	a	a	c	a	b	b	a	a	b		4	0	9	1
24	b	a	d	a	b	b	c	b	a	b	a	a	a	c	a	a	a	a	a	b		5	0	8	1
25	b	a	b	a	a	a	b	b	a	a	a	a	a	c	a	a	b	a	a	b		3	0	7	1
26	b	a	a	a	b	a	a	a	a	b	a	a	a	b	a	a	a	a	b	b		5	0	6	1
27	b	a	c	a	b	a	b	b	a	a	a	a	a	b	b	b	a	a	a	b		4	0	8	1
28	c	a	b	a	b	a	a	b	a	a	a	a	a	c	a	a	c	a	a	b		5	0	9	1
29	b	a	d	a	b	b	c	a	a	b	a	a	a	c	a	a	c	a	a	b		3	0	8	1
30	b	b	b	a	b	a	b	b	a	a	a	a	a	b	c	a	b	a	a	b		4	0	8	1

CONTROL GROUP																								
	Demographic variables							Obstetric variables												Reeda		Pain	
Sample No	Age	Religion	Education	Occupation	Residence	family	Income	Parity	Delivery	Duration	incision	anesthesia	suture material	Birth wt	Pad use	awareness	Pain	hygiene	Alternatives	Aloe vera	pre test	post test	pretest	post test
1	c	a	b	a	b	a	c	b	a	a	a	a	a	b	b	a	b	a	a	b	6	2	8	5
2	b	b	b	a	b	a	a	b	a	a	a	a	a	b	a	a	b	a	b	b	4	2	7	5
3	b	a	b	a	b	a	c	a	a	c	a	a	a	b	a	a	c	a	b	b	4	1	9	6
4	b	b	b	a	b	b	b	a	a	a	a	a	a	c	a	a	c	a	b	b	7	3	9	7
5	c	a	c	a	a	a	b	b	a	a	a	a	a	c	c	a	b	a	b	b	4	1	9	6
6	b	a	b	a	a	a	c	b	a	a	a	a	a	b	a	a	c	a	b	b	4	2	8	5
7	b	a	b	a	b	b	c	a	a	b	a	a	a	c	a	a	c	a	a	b	4	1	9	6
8	b	a	b	a	b	b	a	b	a	a	a	a	a	b	b	a	b	a	a	b	4	2	7	5
9	b	a	c	a	a	b	b	a	a	b	a	a	a	b	a	b	c	a	b	b	5	2	8	6
10	b	a	b	a	b	a	b	a	a	b	a	a	a	b	a	b	b	a	b	b	4	2	7	4
11	b	a	b	a	a	b	a	a	a	b	a	a	a	b	a	b	b	a	b	b	4	1	8	5
12	b	a	b	a	b	a	b	b	a	b	a	a	a	b	b	a	c	a	a	b	4	2	9	7
13	b	a	b	a	b	a	a	a	a	a	a	a	a	c	a	b	a	a	b	b	5	2	9	6
14	c	a	a	a	b	a	b	a	a	b	a	a	a	b	b	a	b	a	b	b	5	3	8	6
15	c	a	b	a	b	b	b	b	a	a	a	a	a	b	c	a	a	a	a	b	5	2	7	5
16	c	a	d	a	b	b	a	b	a	b	a	a	a	b	a	a	c	a	a	b	4	2	7	5
17	c	a	d	a	b	b	a	a	a	b	a	a	a	b	c	b	b	a	b	b	5	3	9	7
18	c	a	b	a	b	b	a	b	a	c	a	a	a	b	a	a	c	a	a	b	5	3	8	6

CONTROL GROUP																								
	Demographic variables							Obstetric variables													Reeda		Pain	
Sample No	Age	Religion	Education	Occupation	Residence	family	Income	Parity	Delivery	Duration	incision	anesthesia	suture material	Birth wt	Pad use	awareness	Pain	hygiene	Alternatives	Aloe vera	pre test	post test	pretest	post test
19	b	b	d	a	b	a	c	b	a	a	a	a	a	b	c	a	c	a	a	b	6	3	7	5
20	b	a	b	a	b	b	c	a	a	c	a	a	a	c	a	a	b	a	b	b	5	2	9	7
21	c	a	b	a	b	a	c	a	a	c	a	a	a	b	a	a	c	a	a	b	5	2	8	6
22	c	a	d	a	b	b	c	a	b	b	a	a	a	c	a	a	b	a	a	b	5	2	6	4
23	b	a	d	a	b	a	c	a	a	b	a	a	a	b	a	b	c	a	a	b	5	3	6	4
24	c	a	b	a	b	b	c	b	a	a	a	a	a	c	a	a	c	a	a	b	6	3	8	6
25	b	a	c	b	b	b	a	b	a	a	a	a	a	b	a	a	b	a	b	b	5	3	7	5
26	b	b	b	a	b	b	c	a	a	b	a	a	a	b	a	b	b	a	b	b	5	3	9	7
27	c	a	a	a	b	b	b	b	a	a	a	a	a	b	a	a	b	a	a	b	5	3	10	8
28	b	a	d	a	b	a	b	a	a	b	a	a	a	b	a	a	b	a	a	b	4	2	9	7
29	b	a	d	b	b	a	b	a	a	b	a	a	a	b	b	b	c	a	a	b	4	2	9	7
30	c	a	b	a	b	a	a	b	a	b	a	a	a	b	a	a	b	a	b	b	6	4	8	6

APPENDIX-H: CERTIFICATE OF ENGLISH EDITING

CERTIFICATE FOR ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation titled **"A study to assess the effectiveness of fresh aloe vera gel application on pain relief and healing of episiotomy wound among postnatal mothers admitted at Institute of Obstetrics and Gynecology and Government Hospital for Women and Children, Chennai"** done by Mrs.S.Jayashree II year M.Sc Nursing student of College of Nursing, Madras Medical College, Chennai-03 is edited for English language appropriateness.

SIGNATURE WITH SEAL

P. SIVASUBRAMANIYAM, M.B.A., B.Ed.,
PRINCIPAL,
Madras Matriculation Higher
Secondary School
VELLORE - 632 002

DATE :

PLACE :